DOCUMENT RESUME

ED 370 514 HE 027 475

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TITLE Campus Computing 1991. The EDUCOM-USC Survey of Desktop Computing in Higher Education.
INSTITUTION Interuniversity Communications Council (EDUCOM), Princeton, N. J.; University of Southern California, Los Angeles. Center for Scholarly Technology.
PUB DATE 92
NOTE 81p.; Sponsored by 15 computer and computer software companies. For the 1992 and 1993 surveys, see HE 476-477; for the 1990 survey, see ED 339 368.
AVAILABLE FROM Center for Scholarly Technology, University of California, 100 Doheny Library, Los Angeles, CA 90089-0182 ($30).
PUB TYPE Reports - Research/Technical (143) -- Statistical Data (110) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS *Computer Assisted Instruction; Computer Software; *Computer Uses in Education; Educational Finance; *Higher Education; Intellectual Property; *Microcomputers; School Policy
IDENTIFIERS Interuniversity Communications Council; Software Copying; Software Piracy

ABSTRACT

A national survey of desktop computing in higher education was conducted in 1991 of 2500 institutions. Data were responses from public and private research universities, public and private four-year colleges, and community colleges. Respondents (N=1099) were individuals specifically responsible for the operation and future direction of academic computing on their campuses. Among key findings were: (1) 37.2 percent of campuses reported reductions in academic computing budgets and one-fifth reported these reductions at 5 percent or more compared to previous years; (2) about two-thirds of campuses were trying not to reduce staff, user services, or hours for public access to facilities and a majority of institutions are exploring less expensive hardware and software options and are more active in recycling older equipment; (3) over a third of campuses will purchase fewer desktop computers during the current academic year; (4) MS-DOS was rated the most important operating system for the future followed by Windows and Macintosh OS; (5) 52.8 percent of institutions have a campus policy regarding software use and duplication; and (6) there was an increase in the proportion of students who own personal computers: up to 18.1 percent from 16.5 percent the previous year. Also included are the survey data and appendixes with study methodology, the survey form, and a list of participating institutions. (JB)

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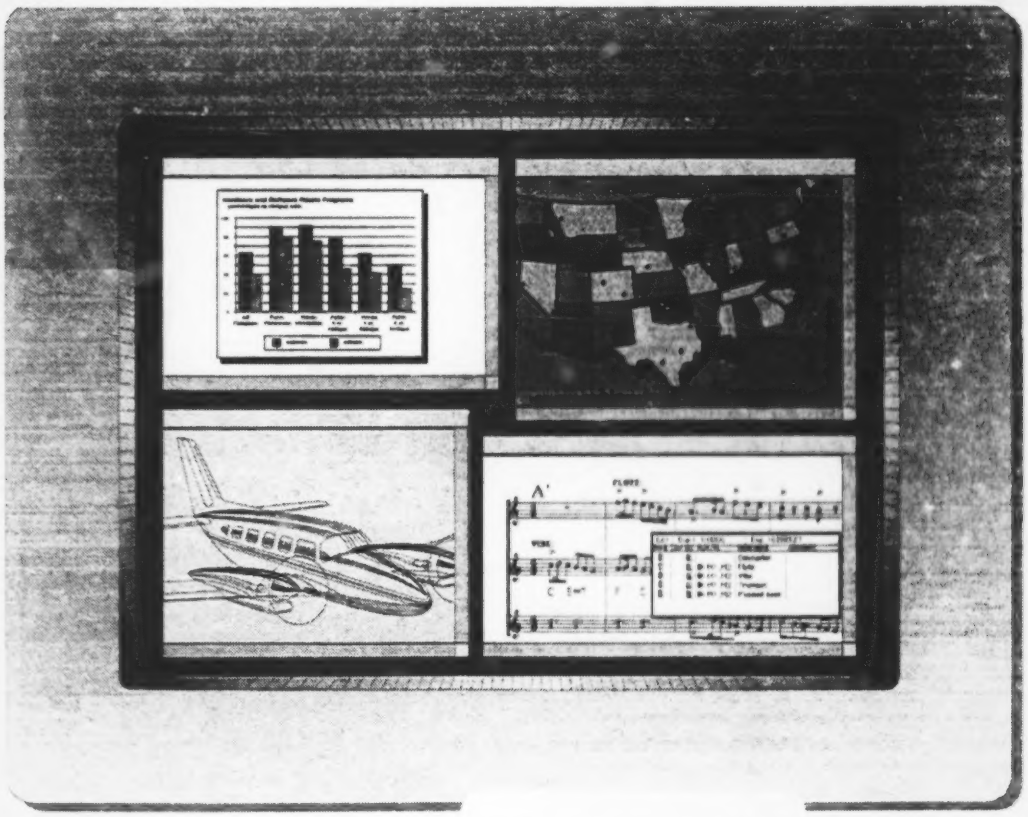
CAMPUS COMPUTING 1991

The EDUCOM•USC Survey of Desktop Computing in Higher Education



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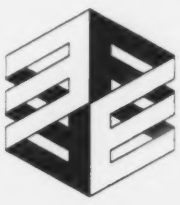

Kenneth C. Green & Skip Eastman

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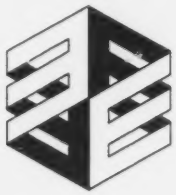

EDUCOM

EDUCOM, cosponsor of the 1991 Desktop Computing Survey, is a nonprofit consortium of over 600 colleges and universities and some 100 corporate affiliates. The consortium seeks to facilitate the introduction, use, access to and management of information resources in higher education.

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CAMPUS COMPUTING 1991

The EDUCOM•USC Survey of Desktop Computing in Higher Education

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CAMPUS COMPUTING 1991

The EDUCOM•USC Survey of Desktop Computing in Higher Education

The National Survey of Desktop Computing in Higher Education was conducted in Spring and Summer 1991 by the Center for Scholarly Technology at the University of Southern California, in cooperation with EDUCOM and with support from 13 corporate sponsors.[1] The data presented in the 1991 report are based on the responses of some 1100 colleges and universities across the United States. The large number and broad mix of campuses participating in this project, now in its second year, make the EDUCOM•USC Survey the largest national survey of desktop computing (i.e., focused on personal computers and workstations) of its kind.

The survey results presented in this report summarize the data from public and private research universities, public and private four-year colleges, and community colleges (i.e.; public two-year institutions).[2] The survey respondents were individuals specifically responsible for and knowledgeable about the current operation and future direction of *academic computing* on their campuses.[3] Surveys were mailed to the senior academic computing officer at more than 2500 colleges and universities across the United States; where it was not possible to identify a specific individual with an academic computing title, the survey was sent to the senior academic officer of the institution. (Additional information about the survey methodology is presented in Appendix A.)

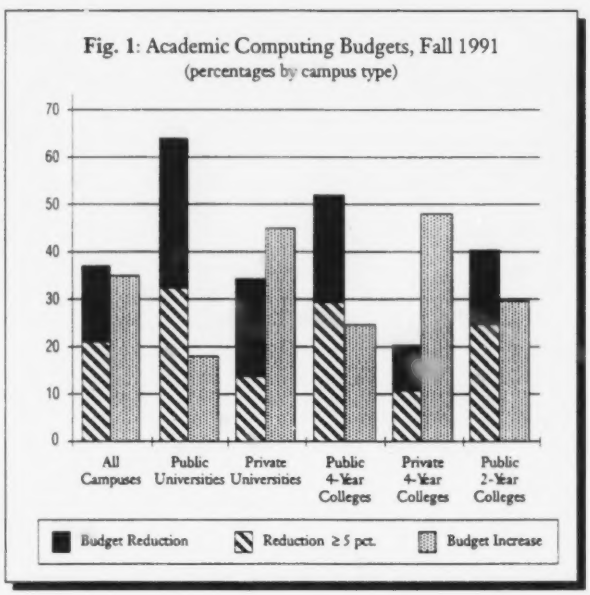

Fig. 1: Academic Computing Budgets, Fall 1991
(percentages by campus type)

Financial Issues

The 1991 EDUCOM•USC survey reveals that the financial problems confronting the nation's colleges and universities have differential impacts on academic computing budgets in public and private institutions (Fig. 1). Overall, more than a third (37.2 percent) of the campuses participating in the 1991 survey report reductions in academic computing budgets; one-fifth report these reductions to be 5 percent or more compared to the budget levels in the 1990/91 academic year.

However, the aggregate data mask important differences between public and private institutions. Public universities and four-year colleges have been the hardest hit by budget reductions. Among public research universities, more than three-fifths (64.5 percent) report budget reductions this past year: one-third (33.8 percent) indicate these cuts are in the range of five percent or more. Similarly, over half (51.7 percent) of the public four-year colleges report budget reductions for academic computing; thirty

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[1] The 1991 EDUCOM•USC National Survey of Desktop Computing in Higher Education was supported, in part, by grants from the following sponsors: ABC/Intellimation, Apple Computer, Borland International, BRS Software Products, Digital Equipment Corp., Follett Campus Resources, Hewlett-Packard, IBM, Lotus Development Corp., Microsoft Corp., NeXT, Inc., SPSS, Sun Microsystems, John Wiley & Sons Publishers, and Zenith Data Systems.

[2] Some 250 private two-year colleges were included in the mailing. However, only a very small number of these institutions (about 50) responded to the 1991 survey. The low response rate and small number of responding two-year private colleges could not in any way be viewed as being representative of the larger population of two-year colleges. Consequently, the data for these institutions are not reported.

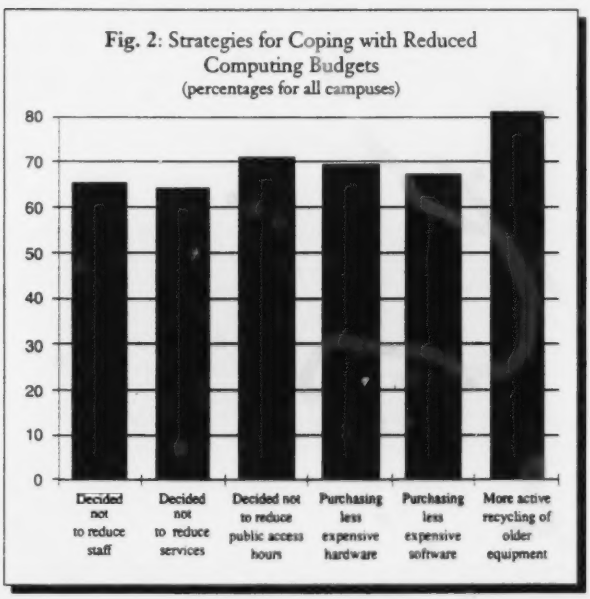
[3] The EDUCOM•USC survey focuses on *academic* computing, i.e., the use of computers to support research and instruction. The survey does not address the use of desktop computers in academic administration (e.g., registration, budget control and financial management, student transcripts, and personnel records).

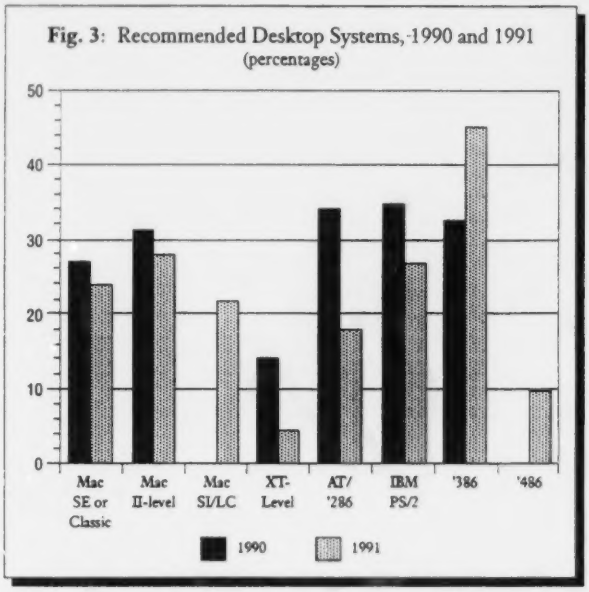
percent indicate that their cuts will equal or exceed five percent. Among community colleges, two-fifths (41.7 percent) report budget cuts for academic computing and fully one-fourth (26.7 percent) indicate these cuts will equal or surpass five percent.

In striking contrast to the public sector, the number of private colleges and universities reporting budget increases for academic computing at the beginning of the 1991/92 academic year exceeded the number reporting reductions. Among private research universities, 45 percent report increased budgets, compared to 35 percent reporting budget reductions. In private four-year colleges, 48.9 percent report increased academic computing budgets compared to 20.9 percent reporting reductions.

The survey data clearly reflect some of the financial problems confronting higher education, and in particular public institutions, during the early 1990s. The reduced resources for academic computing in public institutions are in part a direct consequence of the financial problems currently affecting most states. Additionally, computing services, like libraries, are often a large and centralized service that may be an easy yet inappropriate target for budget cuts during periods of financial difficulty.

For many campuses, however, budget situation reported at the beginning of the academic year in Summer 1991 may not reflect budget realities midway through the fiscal year. Many public and private institutions experienced mid-year budget recissions. For the large number of public institutions that entered the 1991/92 academic year with a budget reduction, the mid-year cuts compound the consequences of reductions already imposed on academic computing resources. In the private sector, where gains exceed cuts going into the new academic year, the mid-year "give-backs" often neutralize the modest gains and may, in some instances, yield a net reduction in the computing budget for some campuses. (The full impact of the budget cuts and recissions will become evident when USC conducts the next survey, in May 1992.)





Coping Strategies

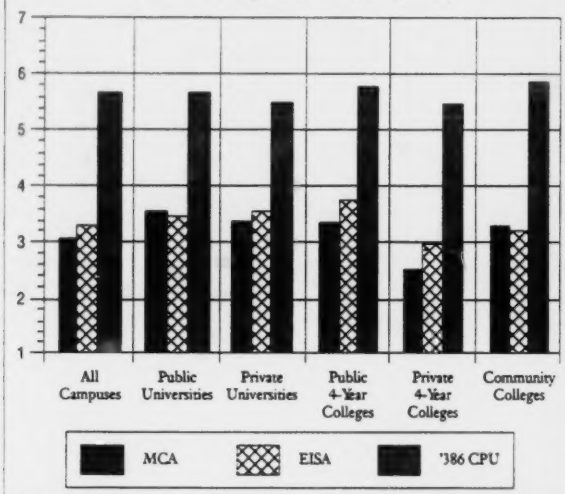
Despite the budget cuts, campuses are making special efforts *not* to reduce computing services. The survey data indicate that roughly two-thirds or more of campuses participating in the 1991 survey are trying not to reduce staff, user services (for example, consulting), or hours for public access to facilities (Fig. 2). The survey also reveals focused campus efforts to make the most effective use of limited financial resources: the majority of responding institutions report that they are exploring less expensive hardware and software options, and are more active about recycling older equipment to departments and programs that may not require state-of-the art hardware. Taken together, the survey data suggest that campuses across the country are making concerted efforts to leverage the value of their shrinking computing dollars.

Hardware Purchases and Preferences

In addition to buying less expensive systems, over a third of the campuses participating in the 1991 EDUCOM•USC survey report that their institution will purchase fewer desktop computers during the

current academic year. Public research universities are most likely to reduce equipment purchases: over half (56.5 percent) report they will be buying less equipment during the 1991 fiscal year than they bought during F/Y 1990.

Fig. 4: Bus and CPU Preferences, Fall 1991
(scale: 1= not important; 7 - very important)

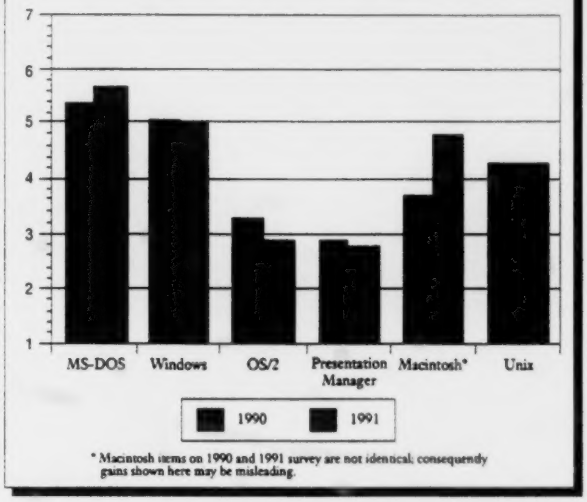


In the area of desktop hardware, the 1991 survey data show a clear movement towards more powerful '386/'386SX systems among campuses recommending IBM/compatible products (Fig. 3). More than two-fifths (45.5 percent) of the participating campuses indicate that they recommend IBM/compatible '386 or '386SX systems. In contrast, less than one-fifth (18.1 percent) continue to recommend AT/'286-based systems and less than one in twenty (4.6 percent) recommend that students or faculty purchase XT-level CPUs. Between 1990 and 1991, the proportion of campuses recommending AT/'286 systems dropped by almost half, while the proportion endorsing '386 or '386SX systems increased by one-third. XT-level systems, endorsed by less than one-sixth of the campuses in the 1990 survey, fell by two-thirds to less than 5 percent in 1991.

The anticipated decline in institutional purchases will not necessarily affect the individual buying decisions of students and faculty. At some campuses student and faculty purchases (through campus resale programs or other channels) may increase specifically *because* the institution will not have resources to purchase (or upgrade) computers. Students, of course, use their own money to buy computers. Faculty, however, may use their own funds, grant money, or institutional funds to buy equipment.

The 1991 survey confirms findings from the 1990 study indicating that the "Bus-battle" between IBM and makers of IBM-compatible desktop computers means relatively little in the higher education market (Fig. 4). The survey data reveal that senior administrators responsible for academic computing give almost equal—and generally low—rankings to the future importance of the IBM's MicroChannel Architecture and the competing EISA Bus promoted by IBM/compatible vendors. These findings, together with the data showing a strong campus preference for '386 (and '386SX)-based systems, suggest that the college and university market, like other market segments, generally sees little vendor distinction or added-value across Intel-based desktop systems. In sum, the survey data suggest that college students, faculty, and administrators — like buyers in other market sectors — increasingly view desktop computers as commodities; they are opting for "value" — as reflected in some mix of price and performance — over more costly "name" brands that deliver equal performance at higher price.

Fig. 5: Changing Operating System Preferences
(rankings: 1 = not important; 7 = very important)

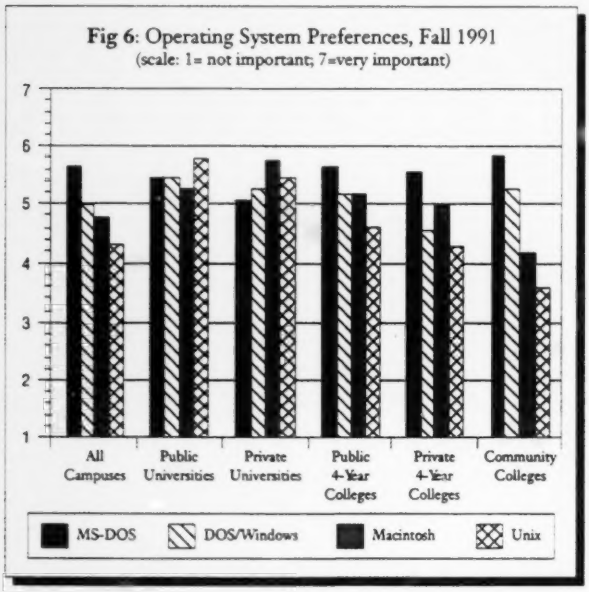


Operating Systems and Enhancements

MS-DOS strengthened its position as the leading operating system for desktop computers on college campuses between the 1990 and 1991 surveys (Fig 5 and Fig. 6). Survey respondents were asked to rate the future importance of various operating systems, operating system enhancements, and hardware options on a 1-7 scale (1=not important; 7=very important); MS-DOS was highest ranked at 5.7, followed by Windows (ranked 5.0), Macintosh OS (ranked 4.8), and Unix

(ranked 4.3). IBM's OS/2 and Presentation Manager both fell in the 1991 rankings, reflecting the market acceptance problems these products have experienced in all market segments and not just higher education.

Somewhat surprisingly, Microsoft's Windows software did not gain in the rankings of operating systems and OS extensions in 1991, despite the apparent success of this product in other market segments. Three factors may account for the small change in Windows' ranking on the 1991 survey. First, most campuses have a large number of older IBM/compatible systems that are not powerful enough to run Windows or Windows software. Second, the costs of purchasing both Windows and Windows-compatible software may be prohibitive for many institutions. Finally, given the strong installed base of Macintosh systems on many campuses, Windows may be seen by many influential campus users as a "me-too" product that falls short of the expectations for graphical user interfaces made popular by the Macintosh over the past seven years.

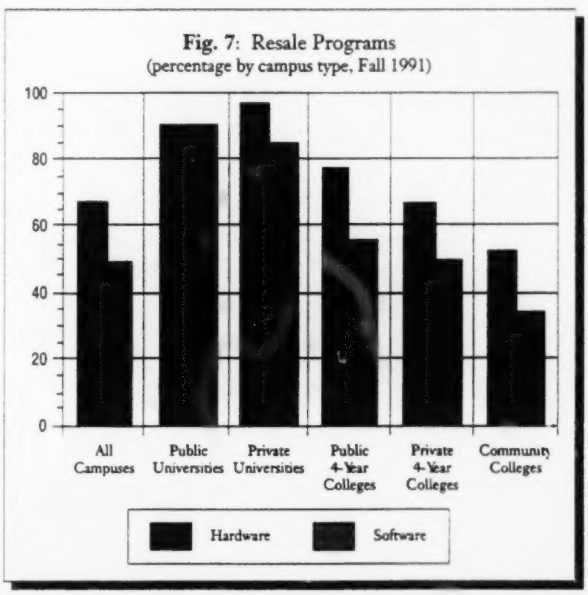


The aggregate data on operating systems hide very important differences across different types of campuses. For example, research universities rank Macintosh and Unix ahead of MS-DOS, while four-year colleges and community colleges indicate that MS-DOS is more important than either the Macintosh or Unix operating system in their future computing plans. These differences reflect variations in the nature, mission, and types of academic computing activities at different kinds of colleges and universities, as well as the financial resources available to support computing at different types of campuses. Given the research and science/engineering orientation of universities, the strong support for Unix is not surprising. In contrast, because MS-DOS-based equipment is the least expensive, it is also not surprising that MS-DOS is the leading operating system among four-year institutions and community colleges, institutions that are often (but not always) far more price sensitive than universities.

Resale and Licensing Programs

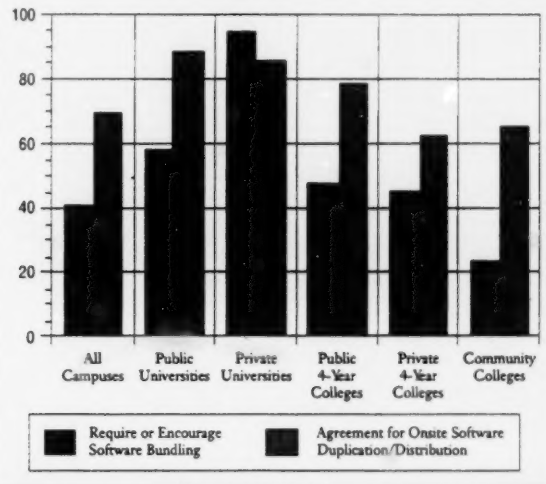
The overall proportion of campuses reporting hardware resale agreements increased slightly between 1990 and 1991, up to 67.5 percent from 65.2 percent in 1990 (Fig. 7). Moreover, the gap between the proportion of campuses reporting hardware and software resale agreements narrowed somewhat this past year: almost half (49.9 percent) of the participating campuses reported software resale agreements, up from 44.2 in 1990.

The 1991 survey also shows gains in the proportion of campuses reporting that they require or encourage software bundling with hardware purchases. Fully two-fifths (40.9 percent) of the campuses report that they require or encourage software bundling, up from 33.9 percent in 1990 (Fig. 8). Private universities are most likely to engage in software bundling: one-third (32.6 percent) of the private research universities participating in the 1991 survey report that they require hardware buyers to purchase bundled software, while another 60.5 percent report that their campus encourages buyers to purchase software when they buy hardware. Over half the public research



universities in the 1991 survey also report that they require or encourage software bundling (Fig. 8).

Fig. 8: Software Bundling and Licensing
(percentages by campus type)



Software licensing activities almost doubled between 1990 and 1991. More than two-thirds (69.4 percent) of the participating campuses report that they have one or more agreements for onsite duplication or distribution of software, up from 35.2 percent in 1990. The largest gain in licensing occurred among community colleges, where agreements for onsite duplication more than doubled, from 27.4 percent in 1990 to 65.3 percent in 1991.

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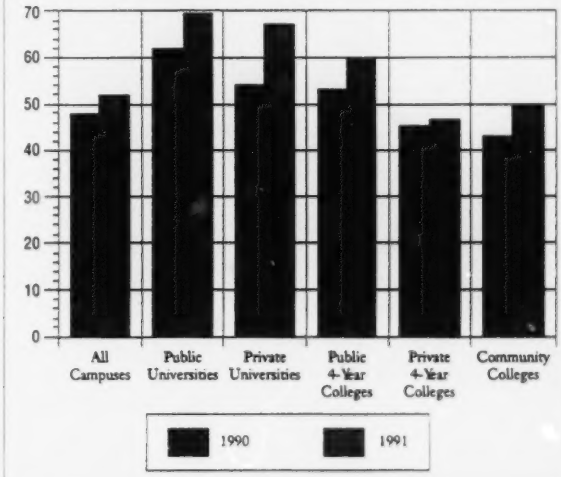
Codes of Conduct

Over half (52.8 percent) of the campuses participating in the 1991 survey report that they have a campus "Code of Conduct" for the use of software, up from slightly from 48.2 percent in 1991 (Fig. 9). As was the case in 1990, about 20 percent of the participating campuses report that a Code of Conduct is now under development at their campus.

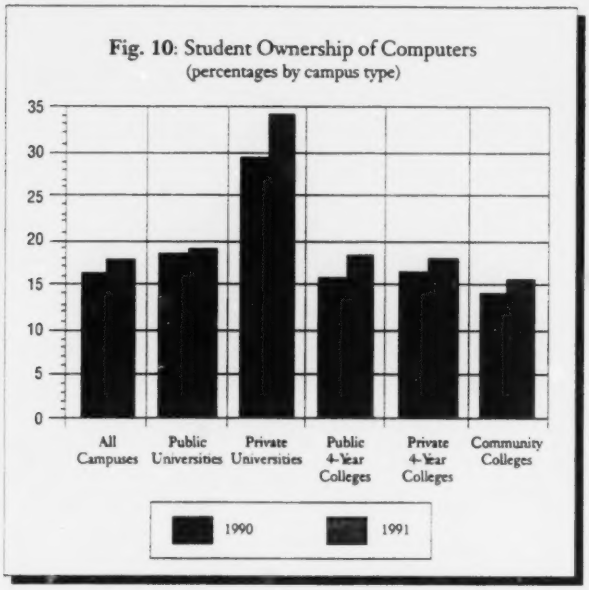
Codes of Conduct are most common at research universities: over two-thirds of the public and private research universities report current Codes of Conduct. Research universities, both public and private, are also the most likely of all campuses to have adopted the EDUCOM Code, a statement about the ethical use of software in higher education: over half (54.1 percent) of the public universities and two-thirds (70.7 percent) of the private universities report having adopted the EDUCOM Code.

Fig. 9: Campus Codes of Conduct
(percentages by campus type, 1990 and 1991)



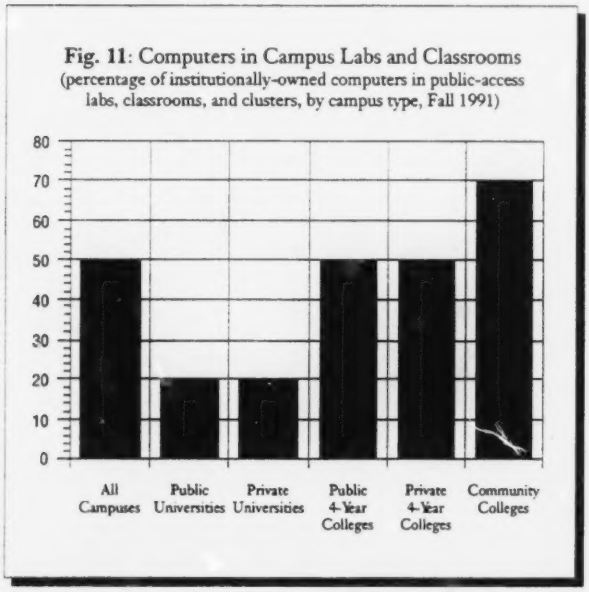
Student Access to Computers

The 1991 survey shows a slight increase in the estimated proportion of students who own personal computers or workstations, up to 18.1 percent from 16.5 percent in 1990 (Fig. 10). Student ownership is highest among the campus sectors that have well-developed resale programs. In general, the campuses with better established resale programs also tend to be research universities and selective four-year colleges (both public and private).



The survey data continue to provide ample evidence that campus resale programs help offset demand for computing access and services that might otherwise be an institutional responsibility. Each computer purchased by an individual student is generally one less student who might need or want out-of-class access to institutionally-provided desktop computers in labs and clusters. Moreover, student ownership helps resolve equipment obsolesence problems: departing students take their own computers with them while new students purchase newer, generally more powerful (and often less expensive) systems.

The data reveal interesting patterns in the ways that campuses allocate their computing resources. Research universities own a larger number of computers per student than other types of institutions, and their students are more likely to own their own computers than undergraduates in four-year or community colleges (Fig. 10). However, research institutions and more affluent campuses invest a greater proportion of their desktop computing resources in their faculty. These campuses make a far smaller proportion of the total number of institutionally-owned computers available to their students (i.e., allocate the computers for instruction and student use) than do other types of institutions (Fig. 11).



Technology as an Instructional Resource

A small but growing number of campuses report that they have a formal plan for "integrating computers into the curriculum." Thirty percent of the 1991 respondents report curriculum plans for technology integration, up slightly from 27.8 percent in 1990.

The 1991 data confirm the 1990 findings that although many campuses want to use computer-based instructional technologies, relatively few institutions offer any rewards or incentives to faculty to encourage the development of instructional resources. Over two-fifths (43.7 percent) of the participating campuses report offering "support for faculty [to develop] instructional resources" (up from 40.7 percent in 1990). However, only 15.0 percent report rewarding faculty for developing instructional technology, a small gain over the 12.9 percent reported in 1990 (Fig. 12).

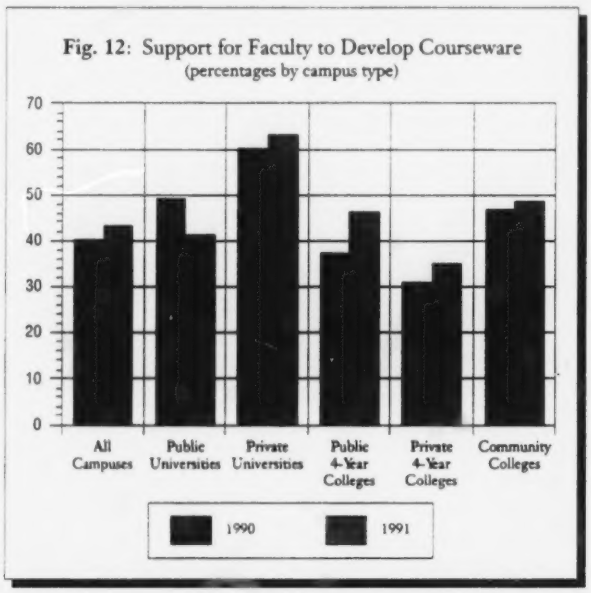
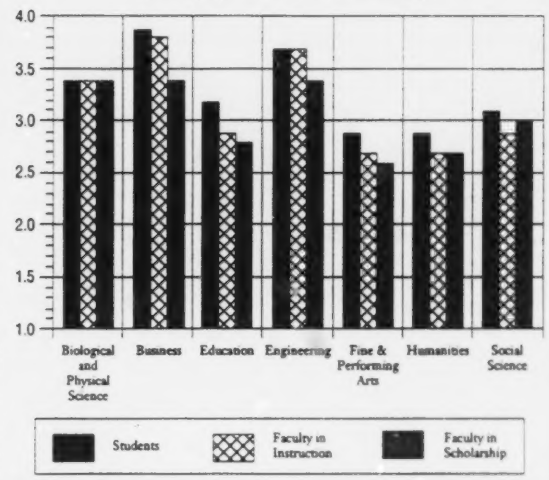


Fig. 13: Who Uses Technology Effectively
(rankings by field; 1=poor; 4=excellent)



Who Uses Technology Effectively

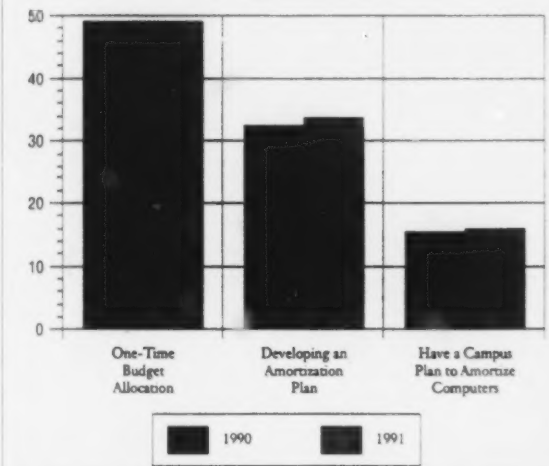
Survey respondents generally perceive faculty in business and engineering to be the best prepared to use technology as a resource for instruction and scholarship while faculty in the humanities and fine/performing arts are perceived to be least well-prepared to use technology resources, either for instruction or for scholarship (Fig. 13). Similarly, undergraduates in business and engineering are viewed by the survey respondents as being the "best prepared by their institution for the technology skills" they will need in the coming decade; their peers in the humanities and fine/performing arts are viewed as the least-well prepared in the area of technology skills.

Fig. 14: Strategic Planning Priorities
(rankings: 1=not important; 7=very important)

Budgeting, Planning, and Organizational Issues

Given the financial problems confronting campuses in all sectors, many institutions find themselves under significant pressure to reassess campus goals for computing. However, the overall ranking of strategic goals and activities for computing changed little between 1990 and 1991. Expanding campus networks and clarifying goals for campus computing plans again ranked as the top strategic issues in 1991, followed closely by amortizing aging computing equipment (Fig. 14). Resale programs were again given a comparatively low priority by respondents. The ranking for resale programs may decline in future years as the gap between campus and off-campus pricing continues to narrow.

Fig. 15: Planning for Acquiring and Retiring Technology
(percentages, 1990 and 1991)



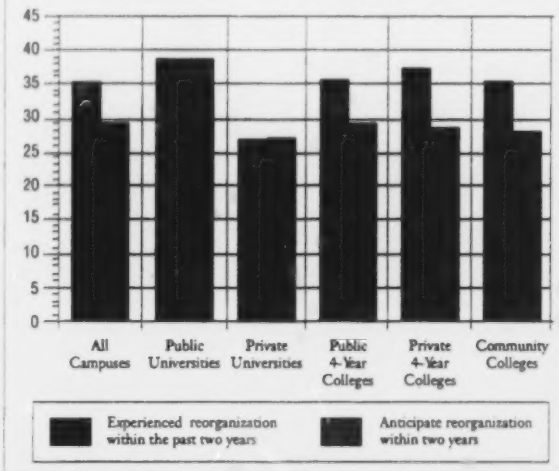
The financial problems confronting campuses, coupled with the fast pace of technological innovation, make it increasingly difficult for campuses to amortize computers. As was the case in the 1990 survey, the 1991 data indicate that most campuses continue to engage in opportunistic purchasing; less than one-fifth actually have a amortization plan to "acquire and retire" computers on a regular basis (Fig. 15).

Organizational Issues

Data from the 1991 survey suggest that the organization of campus computing is undergoing significant

change at many campuses. Overall, three-fourths of the responding institutions report that they have either reorganized campus computing in the past two years or expect to reorganize computing within the next two years (Fig. 16). A further indication of the rate of organization change in computing is that 13.2 percent of the campuses have reorganized over the past two years *and* expect to reorganize again within the next two years. Although the survey does not provide additional detail about the nature of these reorganization efforts, other evidence suggests that reorganization may involve some consolidation of units (computing moving into another organizational unit) or the merger of academic and administrative computing on (typically larger) campuses which had kept these functions separate.

Fig. 16: Living with Reorganization
(percentage of campuses that have experienced or anticipate reorganization of academic computing, by campus type)



In sum, the 1991 survey data highlight the changing nature of desktop computing in higher education, as well as the continuing pressures confronting the campus units responsible for supporting computing. As noted above, the budget data may paint too positive a picture of the financial resources available for computing; mid-year budget recissions, not documented in the 1991 survey but part of the data to be collected in the 1992 survey, may have neutralized whatever modest budget gains that marked the beginning of the academic year. Related to the budget pressures, campuses in general confront growing fiscal and operational pressures to sustain current services, often with less financial resources. The service units responsible for academic computing often expect major reorganization, or have recently experienced one. Taken together, these data point to great challenges and, at many campuses, significant stresses.

The survey data also document the growing presence of generic products. In the Intel/IBM/compatible domain, colleges and universities, like other market segments, are migrating to '386 systems. However, higher cost, "name-brand" products are losing market-share to lower cost, generic alternatives. Efforts by vendors to add value via hardware (for example, bus design) have received little support from campus clients.

Finally, integrating technology into instruction and research remains a major challenge for many institutions. Outside of the sciences, academic computing officials generally believe that faculty in most disciplines have not done a good job of tapping technology in their research or instruction. Given the huge campus investments in desktop technology over the past decade, coupled with the financial problems confronting almost all campuses, there is some risk that the absence of "hard" evidence documenting the positive impact of technology could cause further erosion in the financial resources available to support academic computing.

The 1992 EDUCOM•USC survey will pursue these issues. The continuing development and annual updating of this national data base on computing in higher education provides a valuable resource for campus planning and policy-making. ❑

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CAMPUS COMPUTING 1991

The EDUCOM•USC Survey of Desktop Computing in Higher Education

Survey Data

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GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTING	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Do you have formal policy on computers:						
for curriculum utilization?	26.8	20.9	16.3	29.8	28.0	26.5
for undergraduates?	27.5	19.4	18.6	32.6	31.4	23.6
for graduate students?	6.3	11.9	11.6	12.2	7.7	.5
Micros required/strongly recommended*						
None	84.3	80.6	69.8	85.1	82.3	88.3
Specific disciplines	7.3	10.4	9.3	8.3	6.3	6.9
Individual units	2.3	6.0	9.3	3.3	1.8	.8
All students	6.4	3.0	14.0	5.0	9.0	4.2
O/S recommended/supported*						
Apple II	37.1	26.9	25.6	49.2	34.6	36.9
Macintosh	68.3	86.6	93.0	81.2	69.1	55.2
UNIX	41.5	82.1	81.4	53.6	40.9	24.4
MS/PC-DOS	94.4	95.5	100.0	94.5	91.8	96.0
OS/2	16.4	38.8	23.3	18.8	8.7	18.3
Amiga O/S	4.1	3.0	.0	3.9	4.2	4.8
None recommended	3.4	4.5	7.0	3.9	3.2	2.9
Are there recommended brands*						
for students?	30.4	37.3	53.5	30.9	39.3	17.2
for faculty?	41.6	38.8	44.2	43.6	48.3	34.2
for admin./staff?	48.9	53.7	48.8	47.0	52.8	45.1

Percentages by Campus Category
(*Columns may total more than 100% since responses were not exclusive)

GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTING	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
What desktop computers recommended*						
Apple II series	3.9	6.0	2.3	4.4	2.4	5.0
Macintosh Plus/SE/Classic	24.3	26.9	44.2	31.5	28.2	14.1
Macintosh SE/30, Mac II	28.2	43.3	55.8	38.1	27.7	18.0
Macintosh SI/LC	21.7	31.3	51.2	26.5	24.0	11.9
XT-level	4.6	.0	.0	3.3	5.3	5.8
AT-level/'286 units	18.1	17.9	18.6	22.7	17.7	16.4
IBM PS/2 Systems	27.5	31.3	30.2	29.8	23.5	29.4
'386/'386SX systems	45.5	52.2	53.5	54.1	44.1	40.6
'486/'486SX Systems	10.0	22.4	14.0	14.4	5.8	9.5
What workstations are recommended*						
DEC	9.6	20.9	25.6	13.8	8.4	4.8
HP/Apollo	3.4	7.5	9.3	3.9	3.7	1.6
IBM	6.1	17.9	11.6	7.7	4.5	4.2
NeXT	4.0	16.4	11.6	3.9	4.5	.5
Sun	8.3	31.3	34.9	12.2	7.4	.3

Percentages by Campus Category
(*Columns may total more than 100% since responses were not exclusive)

CURRENT MICROCOMPUTER AND DESKTOP COMPUTER FACILITIES	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Total number of institutionally-owned desktop computers on campus today?.....	703.7	4130.1	2589.2	704.7	229.9	356.0
Students per institutionally-owned desktop computer or workstation (Enrollment divided by number of desktop computers).....	16.6	7.6	7.8	13.5	13.1	24.3
Total number of desktop computers used on your campus today.....	1260.6	6292.3	5282.1	1211.5	455.0	769.4
Students per all desktop computers currently used on campus (Enrollment divided by reported total).....	11.8	5.2	3.8	11.3	8.0	18.1
Total number of computer labs, clusters and classroomson campus this term?.....	25.9	38.3	35.3	24.8	12.8	36.5
Total number of workstations in all the labs?.....	219.3	759.0	326.0	271.7	90.9	223.8
Students per instutionally-owned computers available in labs or clusters (Enrollment divided by lab totals).....	42.1	40.9	36.5	32.0	34.4	55.8
Ratio of lab desktop computers to total institutionally-owned desktop computers	.5	.2	.2	.5	.5	.7

Means by Campus Category

CURRENT MICROCOMPUTER AND DESKTOP COMPUTER FACILITIES	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Proportion of students who have or own computers?	18.1	19.0	34.6	18.5	18.4	15.2
Proportion of faculty who have or own computers?	39.5	44.3	54.4	42.4	43.1	32.0
Proportion of administrators who have or own computers?	37.1	42.2	52.0	38.1	36.2	34.8
Est. desktop units purchased 1990-91:						
by students	153.7	719.7	498.0	112.9	61.4	87.1
by faculty	46.9	278.9	147.5	48.3	17.7	16.7
by admin	39.0	243.1	195.7	30.4	13.1	9.6
by labs	60.3	222.4	103.4	69.6	27.8	54.9
Est. desktop units purchased 1991-92:						
by students	161.5	640.4	519.8	125.0	74.3	111.6
by faculty	40.9	212.2	133.1	42.8	17.0	18.6
by admin	29.2	126.5	159.2	26.8	12.2	10.6
by labs	58.2	213.2	86.9	77.7	24.8	52.9

Means by Campus Category

CURRENT MICROCOMPUTER AND DESKTOP COMPUTER FACILITIES	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
No specific lab charge to students to use campus computer labs.....	62.8	61.2	74.4	66.3	59.9	62.9
Specific charge for use of labs?:						
included in student fees.....	16.5	23.9	14.0	23.2	14.5	14.3
included in course fees.....	20.5	16.4	4.7	11.6	22.2	25.7
hourly rates.....	1.8	3.0	4.7	1.7	1.6	1.6
printing.....	8.1	20.9	23.3	7.7	9.8	2.7

Percentages by Campus Category

HARDWARE/SOFTWARE ACQUISITION POLICIES AND PROCEDURES	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Does your campus have a special resale agreement with hardware vendors?						
No resale program	32.0	9.0	2.3	21.0	31.9	44.8
No but sell computers on-campus	.8	4.5	.0	.0	.8	.5
Campus bookstore	21.7	34.3	23.3	33.1	16.1	19.4
Campus center	26.0	43.3	60.5	21.5	33.0	14.1
Off-campus dealer	18.1	9.0	11.6	22.7	16.9	19.4
Are computer buyers required to purchase bundled software?	7.9	7.5	32.6	8.3	10.0	2.9
Are computer buyers encouraged to purchase software?	33.0	50.7	60.5	38.1	36.1	21.0
Does your campus have a special resale agreement with software vendors?						
No resale program	49.1	9.0	14.0	43.6	48.5	63.4
No but sell software on-campus	3.3	3.0	.0	3.9	4.2	2.7
Campus bookstore	16.3	38.8	23.3	21.0	11.6	14.1
Campus center	17.5	41.8	55.8	17.1	20.3	6.1
Off-campus dealer	11.7	7.5	4.7	12.7	13.2	11.4
Does your campus have a written policy on copyrighted software/piracy?						
No	26.6	17.9	23.3	20.4	29.8	28.1
Under development	19.0	11.9	9.3	19.3	20.6	19.6
Yes	51.0	67.2	65.1	57.5	46.2	48.3
Has your campus reviewed the EDUCOM Code?						
No	55.0	29.9	18.6	47.0	56.7	65.8
Yes--not adopted	8.5	11.9	9.3	9.4	6.9	9.0
Yes--adopted	28.9	49.3	67.4	39.8	28.8	15.9

Percentages by Campus Category

ACADEMIC & INSTRUCTIONAL COMPUTING POLICIES AND PROCEDURES	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Does your campus have a formal plan for integrating computers in curriculum?...	29.6	26.9	9.3	30.9	27.4	34.0
Does your campus have formal projects for developing instructional courseware?.....	31.6	49.3	53.5	35.4	23.7	32.1
Does your campus have support for faculty developing instructional courseware?.....	43.7	41.8	62.8	46.4	35.4	49.1
Does your campus provide support for faculty to develop research software?..	27.4	37.3	37.2	39.2	25.9	20.4
Does your campus have a policy for rewarding courseware development?.....	15.0	22.4	7.0	21.0	10.0	16.7
Does your campus have a royalty-sharing program for faculty courseware?.....	16.5	52.2	32.6	26.0	7.7	12.7
Does your campus have a library of academic software for faculty evaluation?.....	38.9	46.3	69.8	44.8	32.5	37.7
Does your campus have an agreement for duplication/distribution of software?..	69.4	88.1	86.0	79.6	63.6	65.3

Percentages by Campus Category

FUTURE ISSUES AFFECTING CAMPUS COMPUTING HOW IMPORTANT OVER NEXT 2-3 YEARS?	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Operating systems:						
MS/PC-DOS	5.7	5.5	5.0	5.7	5.6	5.9
Windows	5.0	5.5	5.3	5.2	4.6	5.3
OS/2	2.8	3.6	2.7	2.9	2.3	3.2
Presentation Manager	2.8	3.2	2.7	2.9	2.3	3.1
Macintosh	4.8	5.3	5.8	5.2	5.0	4.2
UNIX	4.3	5.8	5.6	4.7	4.3	3.6
Motif	2.1	3.2	3.2	2.4	2.0	1.8
Open Look	2.0	2.9	3.0	2.3	1.8	1.8
New Wave	1.9	2.3	2.0	2.1	1.8	1.8
NeXTStep	2.0	2.6	2.7	2.0	2.0	1.8
GUIS	5.1	5.7	6.0	5.3	4.8	4.9
Hardware:						
Laptop computers	4.2	4.4	4.8	4.2	4.1	4.3
'386 and '386SX CPUs	5.7	5.7	5.5	5.8	5.5	5.9
'486 and '486SX CPUs	4.8	5.3	5.0	5.0	4.4	4.8
Macintosh	4.8	5.2	5.8	5.2	5.0	4.2
IBM's Microchannel Bus	3.1	3.6	3.3	3.4	2.6	3.3
EISA Bus	3.3	3.5	3.6	3.8	3.0	3.2
UNIX Workstations	3.8	5.4	5.2	4.3	3.8	3.1
Diskless Workstations	3.1	3.6	3.6	3.2	3.1	2.9
RISC-based CPUs	3.7	5.2	5.1	4.2	3.6	3.1
Resale and Distribution						
Hardware resale contracts	3.7	4.7	6.0	3.8	4.0	2.9
Software resale contracts	3.6	4.8	5.6	3.7	3.8	2.8
Software site licensing	5.5	6.0	6.3	5.9	5.5	5.2

Means by Campus Category
(Scale from 1 "Not Important" to 7 "Very Important")

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FUTURE ISSUES AFFECTING CAMPUS COMPUTING HOW IMPORTANT OVER NEXT 2-3 YEARS?	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Networking						
Local area networks	6.2	6.4	6.4	6.4	6.0	6.2
Campus-wide networks	6.2	6.7	6.7	6.5	6.0	6.0
Merging data/telecomm networks	5.1	5.1	4.8	5.3	4.8	5.3
Connect PC-LANS to campus networks	5.7	6.5	6.3	6.1	5.4	5.7
Electronic mail	5.8	6.5	6.4	6.2	5.5	5.6
User support & service						
User support & training	6.1	6.1	6.2	6.4	6.1	6.1
Charging for previously free services	3.4	3.9	3.3	3.6	3.3	3.5
Upgrading aging hardware	6.0	5.7	5.7	6.0	5.9	6.1
Upgrading aging software	5.9	5.5	5.9	5.9	5.8	6.1
Software site licensing	6.0	6.0	6.2	6.2	5.8	6.1
Instructional applications						
Developing instructional software	4.2	4.5	4.4	4.4	3.9	4.4
Instructional software in classes	5.6	5.3	5.3	5.6	5.5	5.9
Instructional software as supplement	5.8	5.5	5.6	5.8	5.6	6.0

Means by Campus Category
(Scale from 1 "Not Important" to 7 "Very Important")

ADDRESSING BUDGET ISSUES BY:	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Reducing purchases of Computer Technology:						
Doing Already	26.3	31.7	29.7	29.2	24.1	25.8
Beginning 91-92	8.7	11.7	2.7	9.3	6.8	10.3
Reviewing for 91-92	13.9	18.3	13.5	14.3	13.4	13.5
Decided not to do	51.1	38.3	54.1	47.2	55.7	50.4
Charging new fees to depts./service units:						
Doing Already	10.6	19.0	18.4	9.4	6.8	12.3
Beginning 91-92	4.8	6.3	5.3	8.8	2.5	4.9
Reviewing for 91-92	21.0	36.5	15.8	26.3	19.5	17.6
Decided not to do	63.5	38.1	60.5	55.6	71.2	65.1
Charging new fees to individual users:						
Doing Already	14.8	16.1	18.9	14.7	14.7	14.3
Beginning 91-92	7.1	6.5	5.4	7.7	5.9	8.3
Reviewing for 91-92	20.7	24.2	18.9	25.0	19.7	19.0
Decided not to do	57.4	53.2	56.8	52.6	59.7	58.4
Exploring less expensive hardware options:						
Doing Already	63.1	63.5	60.0	63.9	63.2	62.9
Beginning 91-92	6.9	12.7	5.0	7.2	6.5	6.4
Reviewing for 91-92	15.3	12.7	17.5	16.9	16.2	13.9
Decided not to do	14.7	11.1	17.5	12.0	14.1	16.8
Exploring less expensive software options:						
Doing Already	61.9	71.0	59.0	64.0	60.4	61.1
Beginning 91-92	6.6	8.1	7.7	4.3	6.0	8.0
Reviewing for 91-92	15.9	14.5	12.8	18.9	15.8	15.1
Decided not to do	15.6	6.5	20.5	12.8	17.9	15.7

Percentages by Campus Category

ADDRESSING BUDGET ISSUES BY:	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Leasing rather than buying hardware:						
Doing Already	11.9	10.5	10.5	8.8	17.5	8.3
Beginning 91-92	1.9	.0	2.6	1.9	2.5	1.5
Reviewing for 91-92	10.6	15.8	7.9	6.9	10.0	12.3
Decided not to do	75.6	73.7	78.9	82.4	70.0	77.8
More active recycling of older equipment:						
Doing Already	76.5	63.8	76.9	70.7	80.7	77.2
Beginning 91-92	5.9	8.6	7.7	5.5	5.3	5.8
Reviewing for 91-92	8.4	15.5	10.3	12.8	5.6	7.6
Decided not to do	9.3	12.1	5.1	11.0	8.3	9.4
Consortial purchasing programs:						
Doing Already	42.7	55.2	54.1	54.3	35.2	40.6
Beginning 91-92	2.7	5.2	.0	1.3	2.0	3.9
Reviewing for 91-92	12.5	10.3	5.4	10.6	15.3	11.9
Decided not to do	42.1	29.3	40.5	33.8	47.5	43.5
Vendor Financing:						
Doing Already	17.0	32.1	29.4	22.4	12.8	14.5
Beginning 91-92	1.9	1.9	5.9	2.0	2.0	1.3
Reviewing for 91-92	10.3	13.2	5.9	7.5	11.4	10.4
Decided not to do	70.8	52.8	58.8	68.0	73.7	73.7

Percentages by Campus Category

ADDRESSING BUDGET ISSUES BY:	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Reducing hours in public access facilities:						
Doing Already	15.2	18.6	21.1	28.0	5.6	17.0
Beginning 91-92	3.7	10.2	5.3	4.3	1.6	4.2
Reviewing for 91-92	9.3	28.8	5.3	11.0	6.2	8.4
Decided not to do	71.8	42.4	68.4	56.7	86.6	70.4
Reducing services (i.e., less consulting):						
Doing Already	18.3	26.7	27.0	29.9	12.9	15.4
Beginning 91-92	5.8	8.3	13.5	4.5	4.1	6.9
Reviewing for 91-92	10.0	21.7	2.7	15.9	7.2	8.5
Decided not to do	65.8	43.3	56.8	49.7	75.8	69.3
Reorganizing operations:						
Doing Already	33.9	43.5	56.8	32.9	30.2	33.4
Beginning 91-92	7.8	12.9	10.8	7.5	5.7	8.7
Reviewing for 91-92	21.0	30.6	13.5	26.1	18.7	19.6
Decided not to do	37.4	12.9	18.9	33.5	45.4	38.3
Reducing staff:						
Doing Already	22.6	35.9	48.7	27.2	14.5	22.8
Beginning 91-92	3.2	10.9	7.7	2.5	1.8	2.8
Reviewing for 91-92	7.6	15.6	7.7	10.8	3.7	8.3
Decided not to do	66.6	37.5	35.9	59.5	80.0	66.0

Percentages by Campus Category

STRATEGIC PLANNING ISSUES: HOW IMPORTANT OVER NEXT 2-3 YEARS?	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Assessing benefits of existing investments in computing resources.....	5.5	5.3	5.3	5.4	5.4	5.7
Clarifying goals and campus plans for technology resources.....	6.0	6.1	6.0	6.0	6.0	6.1
Providing rewards for faculty to support technology curriculum integration.....	4.6	4.6	4.3	4.6	4.5	4.7
Allocating campus funds to support expanded services.....	5.3	5.4	4.7	5.3	5.4	5.3
Faculty concerns about the benefits of computing in the curriculum.....	5.0	4.7	4.6	4.8	5.0	5.2
Administrative concerns about benefits of computingin the curriculum.....	4.8	4.7	4.5	4.6	4.8	5.1
Developing/strengthening vendor relationships.....	4.5	4.8	5.0	4.6	4.5	4.4

Means by Campus Category
(Scale from 1 "Not Important" to 7 "Very Important")

STRATEGIC PLANNING ISSUES: HOW IMPORTANT OVER NEXT 2-3 YEARS?	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Charging fees to students for desktop computer access.....	3.3	3.4	2.3	3.6	2.9	3.5
Establishing/maintaining campus-wide standards for hardware.....	5.4	5.0	5.0	5.5	5.4	5.5
Establishing/maintaining campus-wide standards for software.....	5.5	5.0	5.5	5.5	5.5	5.6
Integrating computing services with allied service departments.....	5.4	5.4	5.6	5.1	5.5	5.4
Expanding computer networking across the campus.....	6.1	6.5	6.2	6.3	6.1	5.8
Operating a computer resale program for students and faculty.....	3.7	4.1	4.9	3.7	4.0	3.1
Developing budget mechanisms to replace aging equipment on a routine basis.....	5.8	5.7	5.6	5.7	5.8	5.8

Means by Campus Category
(Scale from 1 "Not Important" to 7 "Very Important")

THIS YEAR'S COMPUTING BUDGET COMPARED TO LAST YEAR'S	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Total academic computing budget:						
Reduced > 5%	21.9	33.8	15.0	30.1	11.6	26.7
Reduced 3-5%	7.8	16.9	17.5	10.8	4.5	6.9
Reduced 1-3%	7.5	13.8	2.5	10.8	4.8	8.1
No change	26.9	16.9	20.0	22.7	30.2	28.3
Increased 1-3%	11.4	12.3	15.0	8.5	15.3	8.3
Increased 3-5%	9.3	1.5	22.5	5.7	13.0	7.5
Increased > 5%	15.1	4.6	7.5	11.4	20.6	14.2
Purchases of desktop computers by academic computing units:						
Reduced > 5%	20.9	20.6	15.4	28.0	12.4	26.6
Reduced 3-5%	8.4	15.9	10.3	13.1	3.4	9.5
Reduced 1-3%	6.6	12.7	2.6	5.7	4.8	8.1
No change	30.1	28.6	35.9	26.3	34.4	27.5
Increased 1-3%	11.5	12.7	2.6	9.7	15.2	9.5
Increased 3-5%	8.2	3.2	12.8	8.6	9.6	7.0
Increased > 5%	14.3	6.3	20.5	8.6	20.3	11.8
All institutional purchases of desktop computers:						
Reduced > 5%	22.2	19.4	15.4	29.9	13.3	28.6
Reduced 3-5%	6.7	19.4	7.7	9.2	2.8	6.9
Reduced 1-3%	7.3	17.7	2.6	6.3	5.9	7.8
No change	28.0	24.2	35.9	24.1	31.6	26.1
Increased 1-3%	13.9	12.9	15.4	12.6	16.9	11.4
Increased 3-5%	8.5	3.2	5.1	9.8	9.6	8.1
Increased > 5%	13.4	3.2	17.9	8.0	19.8	11.1

Percentages by Campus Category

LIBRARIES AND COMPUTING	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Does your campus have desktop computers in the library?	77.9	85.1	90.7	84.5	77.6	72.4
Library patrons use computers for:						
catalog access	48.6	68.7	81.4	58.0	37.5	48.0
database access	44.4	52.2	69.8	50.3	44.3	37.4
open access use	32.9	49.3	37.2	37.6	29.8	30.2
word processing	48.5	50.7	58.1	48.6	52.0	43.5
CD ROM access	63.8	73.1	86.0	74.6	63.6	54.6
Has your library catalog been automated?	57.2	91.0	93.0	71.3	45.6	52.0

Percentages by Campus Category

NETWORKING: HOW IMPORTANT ARE THESE ISSUES IN PLANNING FOR NETWORKING	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Connecting desktop systems to share departmental or workgroup files.....	5.2	5.6	5.9	5.4	4.9	5.1
Connecting desktop systems to share software resources.....	5.6	5.7	5.8	5.7	5.5	5.5
Supporting instructional labs and clusters.....	5.9	6.0	6.0	6.0	5.9	5.9
Intradepartmental mail systems on LANS.	4.6	5.2	5.3	4.9	4.3	4.5
Campus-wide mail systems on a network..	5.3	6.3	6.3	5.9	5.1	4.8
Linking PCs to larger computing systems	5.5	6.2	6.0	5.9	5.2	5.4
Linking your campus with regional or national networks.....	5.2	6.3	6.5	6.1	5.0	4.5

Means by Campus Category
(Scale from 1 "Not Important" to 7 "Very Important")

NETWORKING	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Networks currently installed:*						
Fiber	41.5	82.1	86.0	56.4	34.8	28.6
ISDN	3.5	10.4	9.3	2.2	2.6	3.2
Ethernet/Coax	66.9	91.0	97.7	80.1	60.9	58.6
Twisted Pair	59.7	86.6	90.7	69.6	58.8	47.5
Students assessed fee to use e-mail	1.0	4.5	2.3	1.1	.8	.3
Faculty assessed fee to use e-mail	.9	4.5	2.3	1.7	.3	.3
Administrators assessed fee to use e-mail	1.6	6.0	4.7	3.3	.3	1.1
Staff assessed fee to use e-mail	1.4	6.0	4.7	3.3	.3	.5
Who has access to Bitnet/Internet						
Students	30.3	88.1	86.0	50.3	27.7	6.6
Faculty	47.3	98.5	93.0	85.1	37.7	24.4
Administrators	47.4	98.5	93.0	85.1	35.1	27.3
Staff	40.1	97.0	93.0	72.9	30.6	17.8

Percentages by Campus Category
(*Columns may total more than 100% since responses were not exclusive)

NETWORKING: WHO HAS ACCESS TO E-MAIL	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Students who use e-mail.....	14.0	18.3	28.6	14.4	18.3	3.4
Faculty who use e-mail.....	23.2	35.5	35.8	25.7	21.8	17.5
Administrators who use e-mail.....	34.1	36.1	31.9	38.5	27.0	37.5
Staff who use e-mail.....	28.1	34.8	25.0	31.1	23.0	29.8

Mean Percentage by Campus Category

COMPUTING FOR DISABLED STUDENTS	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
How would you describe arrangements for computer access for disabled end-users?						
Centralized access	16.3	12.3	18.6	15.8	14.8	18.5
Segmented access	8.8	18.5	7.0	7.3	2.8	14.0
Mixed access	19.0	33.8	30.2	22.6	5.3	26.9
General access	55.9	35.4	44.2	54.2	77.2	40.6
Is your campus currently reviewing the computing needs of disabled students?						
No plans	56.8	37.9	60.5	54.4	70.8	46.2
No--completed review	14.7	27.6	16.3	14.2	9.2	18.2
Review underway	17.9	15.5	16.3	19.5	10.3	25.7
Review next year	10.6	19.0	7.0	11.8	9.7	9.8

Percentages by Campus Category

ORGANIZATION OF CAMPUS COMPUTING AND TECHNOLOGY UNITS	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Our campus is part of a multicampus system with shared computing resources.	32.0	44.8	23.3	48.6	11.1	43.8
Academic and administrative computing on my campus are:						
Separate units	58.7	43.3	39.5	43.1	64.1	65.8
A single unit	37.7	56.7	58.1	54.1	33.0	28.9
Head of academic computing reports to:						
President	6.9	.0	.0	7.7	6.1	9.3
Provost	28.2	31.3	32.6	33.1	35.4	17.5
Vice president	23.7	46.3	58.1	30.4	19.5	16.7
Dean	24.6	4.5	2.3	6.1	25.1	39.3
Other	10.0	16.4	4.7	14.4	9.0	8.5
Academic computing has been reorganized in past two years	36.0	38.8	25.6	35.4	37.2	35.8
We anticipate reorganization of academic computing in next two years	29.0	38.8	25.6	28.7	28.5	28.4
Head of library reports to:						
President	4.7	1.5	2.3	2.8	3.7	7.4
Provost	44.8	71.6	60.5	63.5	50.1	23.9
Vice president	13.2	16.4	23.3	14.9	11.1	12.7
Dean	26.4	7.5	9.3	8.3	26.4	40.3
Other	4.1	1.5	2.3	5.0	2.6	5.8
Library services have been reorganized in past two years	26.2	14.9	25.6	18.8	26.1	31.8
We anticipate reorganization of library services in next two years	24.4	20.9	18.6	19.9	26.1	26.0

Percentages by Campus Category

ORGANIZATION OF CAMPUS COMPUTING AND TECHNOLOGY UNITS	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
Level of involvement of our chief academic officer in instructional technology:						
Not interested-involved	6.6	12.1	20.0	5.0	4.6	7.0
Interested	27.2	34.8	37.5	30.7	29.4	20.9
Somewhat involved	27.0	31.8	30.0	30.7	25.3	25.7
Directly involved	39.1	21.2	12.5	33.5	40.7	46.3
How well does your campus deal with the 'life cycle' issues of desktop computers						
One-time allocation	49.3	55.4	41.9	50.0	49.2	48.9
Developing plan	34.9	30.8	32.6	36.9	34.1	35.8
Have Plan	15.8	13.8	25.6	13.1	16.8	15.4

Percentages by Campus Category

STUDENTS/FACULTY PREPARATION FOR USE OF COMPUTERS IN INSTRUCTION & SCHOLARSHIP	ALL CAMPUSES	Public University	Private University	4-Yr Public College	4-Yr Private College	2-Yr Public College
How well train in tech. challenges:						
for students in bio/phys. sci.?.....	3.4	3.7	3.6	3.5	3.3	3.3
for students in business?.....	3.8	3.9	4.1	3.8	3.7	4.0
for students in education?.....	3.2	3.4	3.4	3.2	3.2	3.0
for students in engineering?.....	3.7	4.4	4.3	3.7	3.3	3.7
for students in fine/perf. arts?.....	2.9	2.9	3.1	2.9	2.9	2.9
for students in humanities?.....	2.9	2.9	3.2	2.9	3.0	2.8
for students in social science?.....	3.1	3.3	3.7	3.1	3.2	2.9
Faculty preparation for instruction in:						
bio/phys. sci.?.....	3.4	3.6	3.3	3.5	3.4	3.4
business?.....	3.7	3.8	3.8	3.7	3.5	3.9
education?.....	2.9	3.1	2.9	3.0	2.9	2.8
engineering?.....	3.7	4.2	3.8	3.8	3.3	3.7
fine/perf. arts?.....	2.7	2.6	2.7	2.7	2.6	2.7
humanities?.....	2.7	2.6	2.7	2.6	2.7	2.6
social science?.....	2.9	3.1	3.2	3.0	3.0	2.6
Faculty preparation for scholarship in:						
bio/phys. sci.?.....	3.4	4.1	3.9	3.6	3.4	3.2
business?.....	3.4	3.9	3.7	3.5	3.3	3.4
education?.....	2.8	3.3	3.0	2.9	2.8	2.7
engineering?.....	3.4	4.3	4.2	3.5	3.1	3.3
fine/perf. arts?.....	2.6	2.8	2.7	2.6	2.6	2.6
humanities?.....	2.7	2.9	2.7	2.7	2.7	2.6
social science?.....	3.0	3.4	3.3	3.0	3.1	2.6

Means by Campus Category
(Scale from 1 "Poor" to 5 "Excellent")

CAMPUS COMPUTING 1991

The EDUCOM•USC Survey of Desktop Computing in Higher Education

Appendices

A. Methodology

B. Survey Form

C. Participating Institutions

Appendix A

Methodology

The 1991 EDUCOM•USC Survey of Desktop computing was designed to collect information about campus planning, policies, and procedures affecting the use of desktop computers (i.e., personal computers and workstations) from colleges and universities in the United States (including Alaska and Hawaii).

The 1991 survey was mailed to some 2500 campuses in the United States early in May, 1991. Questionnaires were sent to all four-year colleges and universities, and all two-year public and private institutions. Small branch campuses of multi-campus districts enrolling only a few hundred students and some two- and four-year institutions that admit less than one hundred students annually were omitted from the survey sample, as were proprietary schools.

Questionnaires were mailed to the institution's EDUCOM representative, if the campus was a member of EDUCOM, or to the director of academic computing. In those instances where it was not possible to identify, by name, an individual in the role of director of academic or campus computing, the questionnaire was then mailed to the chief academic officer of the institution.

A second wave of survey instruments was mailed to nonresponding institutions early in July. A total of 1,099 campuses returned completed and usable questionnaires by mid-September, the closing date for the data analysis. The number of participating campuses are listed below, by campus type:[1]

Public Research Universities	67
Private Research Universities	43
Public Four-Year Colleges	181
Private Four-Year Colleges	397
Public Two-Year Colleges	377
Private Two-Year Colleges	51

The overall response rate to the survey was about 44 percent. However, within some segments of campus types the response rate was higher; for example, over 70 percent of private universities participated in the 1991 survey. Among public two-year colleges, the response rate (about 40 percent) is very good for this type of survey and reflects a rich array of institutional responses. Similarly, while less than half of the nation's private four-year colleges responded to the survey, the data from these institutions is nonetheless quite varied and consequently very rich with information about computing practices and policies within these types of institutions. The small number of private two-year campuses responding to the survey was the reason why survey results for these institutions are not reported.

[1] The institutional typology presented here and used in the survey analysis and report reflects a variation on the widely-used Carnegie model (Carnegie Advancement for the Foundation of Teaching, Princeton, NJ). This model has also been used by UCLA's Higher Education Research Institute for the annual American Council on Education-UCLA Cooperative Institutional Research Program Survey of Entering Freshmen.

EDUCOM•USC NATIONAL SURVEY OF DESKTOP COMPUTER USE IN HIGHER EDUCATION

SPRING 1991

Dear Colleague:

This survey is part of a national project focused on campus policies, plans, and procedures affecting desktop computing in two- and four-year colleges and universities. Your responses will contribute to a better understanding of the ways campuses across the country are planning for and using desktop computers.

Please take a few minutes to complete this questionnaire. All responses will be treated in a confidential manner. You will receive a copy of the survey results in Fall, 1991.

Kenneth C. Green
Project Director

MAILING LABEL

Please attach a business card with the correct name, title, and address of survey respondent. Updated addresses will be used to send you a copy of the survey results.

Please respond to all questions based on institutional policies, i.e., policies that apply broadly to students, faculty, administrators and staff in all units of your institution.

A. GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTING

1. Does your campus have a formal policy promoting or mandating computers/computing resources for
   curriculum utilization? ① no ② yes
   undergraduates? ① no ② yes
   graduate students? ① no ② yes
2. Does your institution have a *computer instruction* or *computer competency* requirement for all undergraduates?
   ① no ② yes
3. Does your campus have a formal policy about the *confidentiality of computer data?*
   ① no ② yes
4. Does your campus have a formal policy regarding the *development of software* by faculty and staff?
   ① no ② yes
5. Please check the *Operating Systems* recommended or supported by your institution:
   ❑ Apple II ❑ MS-DOS/PC DOS
   ❑ Macintosh ❑ OS/2
   ❑ UNIX ❑ Other: _____
   ❑ Amiga O/S ❑ None (my campus *has not* recommended a specific operating system.)
6. Does your institution *require* or *strongly recommend* microcomputer ownership? *(please check all that apply)*
   ❑ no
   ❑ yes, for students in specific disciplines or programs
   ❑ yes, for students in individual academic units or schools
   ❑ yes, for all students

   Please list depts./units that require or recommend computer ownership:
   _____
   _____
   _____
   _____
7. Does your institution (or individual units or programs) specifically recommend a particular brand or products for
   students? ① no ② yes
   faculty? ① no ② yes
   administrators/staff? ① no ② yes

If you answered "yes" to any part of #7, please go on to #8; otherwise, please go on to #9.

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please go on to the next page ➨

8. Please check the brand(s)/kinds(s) of *desktop* computer system(s) generally recommended by your institution:

Apple	IBM & IBM Compatibles	UNIX Systems
❑ Apple II series	❑ XT-level	❑ DEC
❑ Macintosh Plus/SE/Classic (68000 series)	❑ AT-level/'286 units	❑ HP/Apollo
	❑ IBM PS/2 systems	❑ IBM
❑ Macintosh SE/30 or Mac II series	❑ '386/'386SX systems	❑ NeXT
	❑ '486/'486SX systems	❑ Sun
❑ Macintosh SI/LC	❑ other:_____	❑ other:_____

B. Current Microcomputer and Desktop Computer Facilities

9. What is the total *headcount* enrollment on your campus (undergraduate and graduate)? |__|__|__|__|__|

10. What is your *best estimate* of the total number of *institutionally-owned* desktop computers and workstations on your campus today? (Please include systems in faculty offices and in labs, clusters, classrooms, residence halls, etc.)

|__|__|__|__|__|__|

11. What is your best estimate of the total number of *personally-owned* desktop computers used on your campus today? (Include personally purchased systems owned by students and faculty.)

|__|__|__|__|__|__|

12. What is your best estimate of the proportion of individuals in your campus community who have or own desktop computers?

students	|__|__| %
faculty	|__|__| %
administrators	|__|__| %

13. Estimated total number of desktop units purchased by:

	1990-91	1991-92
students	|__|__|__|__|	|__|__|__|__|
faculty (personal & office/project use)	|__|__|__|__|	|__|__|__|__|
administrators (personal & office/project use)	|__|__|__|__|	|__|__|__|__|
campus labs, clusters & other instructional use	|__|__|__|__|	|__|__|__|__|

14. Total number of *desktop computer labs, clusters,* and *classrooms* on your campus as of May 1991?

|__|__|__|

15. How many of these computer labs/clusters/classrooms are specifically dedicated for use by individual departments or units (e.g., writing program, engineering, social science)?

|__|__|__|

16. Total number of *microcomputers and workstations* in *all* the labs/classrooms/clusters on your campus?

|__|__|__|__|__|

17. Is there a specific charge *to students* for use of the labs? (Please mark all that apply.)
    - ❑ no
    - ❑ yes, included in student fees
    - ❑ yes, included in course fees
    - ❑ yes, hourly rates
    - ❑ yes, for printing

18. Who may reserve lab facilities? (Please mark all that apply.)
    - ❑ no reservation policy
    - ❑ labs may not be reserved (permanent open-access facilities)
    - ❑ individual students for their own work
    - ❑ groups of students for special projects
    - ❑ faculty for classes or seminars
    - ❑ off-campus groups for special seminars

C. Hardware Acquisition Policies and Procedures

19. Does your institution have a special pricing or resale agreement with one or more *hardware* vendors?
    - ① no, we do not have any kind of computer resale program.
    - ② no, we do not have a special discount program although we do sell computers through an on-campus facility.
    - ③ yes, for hardware sold through the campus bookstore.
    - ④ yes, for hardware sold through a special campus center or outlet *not* affiliated with our bookstore.
    - ⑤ yes, for hardware sold by special agreement with an off-campus dealer.

please go on to the next page ➡

20. Does your institution *require* computer buyers to purchase bundled software as part of the resale program?
① no ② yes

21. Does your institution *encourage* computer buyers to purchase software as part of the resale program?
① no ② yes

22. Does your institution offer financial assistance to students and/or faculty to purchase computer hardware?
① no (go on to #23) ② yes

If yes, please check all types of assistance offered:

Type of Assistance	Students	Faculty
Loans	❑	❑
Grants	❑	❑
Financial aid (students only)	❑	
Other: _____	❑	❑

D. Software Acquisition and Utilization Issues

23. Does your institution have a special pricing or resale agreement with one or more software vendors?
① no, we do not have a software resale program.
② no, we do not have a special discount program although we do sell software through an on-campus facility.
③ yes, for software sold through the campus bookstore.
④ yes, for software sold through a special campus center or outlet *not* affiliated with our bookstore.
⑤ yes, for software sold by special agreement with an off-campus dealer.

24. Does your institution have policies and/or procedures regarding the *duplication of copyrighted software* and *software piracy?* (Please mark all that apply.)
❑ no organized institutional activity (skip to #25)
❑ information in the student handbook
❑ information in the faculty handbook
❑ information in the staff handbook
❑ discussion in training classes
❑ discussion in new student orientation
❑ general promotional effort on campus
❑ discussion in faculty orientation
❑ discussion in staff orientation
❑ information distributed with computer purchases
❑ potential for sanctions against students
❑ potential for sanctions against faculty
❑ potential for sanctions against staff

25. Does your institution have a written policy regarding the *duplication of copyrighted software/software piracy?*
① no
② no, but under development
③ yes (effective date: _____)

26. Has your institution reviewed the EDUCOM Code regarding the duplication of copyrighted software?
① no
② yes, but we decided not to adopt or endorse it here.
③ yes, and we have endorsed it or modified it as part of our institutional policy.

F. Academic & Instructional Computing Policies and Procedures

27. Does your campus have a formal plan for integrating desktop computers into the curriculum?
① no ② yes

28. Does your campus have one or more formal projects for developing desktop instructional software/courseware?
① no ② yes

29. Does your campus provide any formal support or assistance (e.g, funding, release time, technical assistance) to help faculty who wish to develop *instructional* software/courseware?
① no ② yes

30. Does your campus provide any formal support or assistance (e.g, funding, release time, technical assistance) to assist faculty who may wish to develop software to assist their *research*?
① no ② yes

31. Does your campus have a policy or program for rewarding courseware development or providing incentives for faculty to develop instructional software/courseware?
① no ② yes

32. Does your campus have a royalty-sharing program for faculty who develop instructional software/courseware using campus resources and/or staff?
① no ② yes

33. Does your campus maintain a library of academic courseware for faculty review and evaluation?
① no ② yes

34. Does your campus have one or more agreements or licenses for on-campus duplication and distribution of desktop computer software products?
① no ② yes

please go on to the next page ➡

G. Future Issues Affecting Campus Computing

35. As you think about the future of computing at your institution, please indicate how *important* you see the following items in the overall campus computing environment and computing policy over the next 2-3 years.

	Not Important						*Very Important*
Operating System/Interface/Development							
MS-DOS/PC-DOS	①	②	③	④	⑤	⑥	⑦
Windows	①	②	③	④	⑤	⑥	⑦
OS/2	①	②	③	④	⑤	⑥	⑦
Presentation Manager	①	②	③	④	⑤	⑥	⑦
Macintosh	①	②	③	④	⑤	⑥	⑦
UNIX	①	②	③	④	⑤	⑥	⑦
Motif	①	②	③	④	⑤	⑥	⑦
Open Look	①	②	③	④	⑤	⑥	⑦
New Wave	①	②	③	④	⑤	⑥	⑦
NeXTStep	①	②	③	④	⑤	⑥	⑦
Graphical User Interfaces	①	②	③	④	⑤	⑥	⑦
Hardware							
Laptop computers	①	②	③	④	⑤	⑥	⑦
'386 and '386 SX CPUs	①	②	③	④	⑤	⑥	⑦
'486 and '486 SX CPUs	①	②	③	④	⑤	⑥	⑦
Macintosh	①	②	③	④	⑤	⑥	⑦
IBM's Microchannel Bus	①	②	③	④	⑤	⑥	⑦
EISA Bus	①	②	③	④	⑤	⑥	⑦
UNIX Workstations	①	②	③	④	⑤	⑥	⑦
Diskless Workstations	①	②	③	④	⑤	⑥	⑦
RISC-based CPUs	①	②	③	④	⑤	⑥	⑦
Resale and Distribution							
Hardware resale contracts	①	②	③	④	⑤	⑥	⑦
Software resale contracts	①	②	③	④	⑤	⑥	⑦
Software site licensing	①	②	③	④	⑤	⑥	⑦

	Not Important						*Very Important*
Networking							
Local area networks	①	②	③	④	⑤	⑥	⑦
Campus-wide networks	①	②	③	④	⑤	⑥	⑦
Merging data & telecommunication networks	①	②	③	④	⑤	⑥	⑦
Connecting PC- LANS to campus-wide networks	①	②	③	④	⑤	⑥	⑦
Electronic mail	①	②	③	④	⑤	⑥	⑦
User Support & Service							
User support & training	①	②	③	④	⑤	⑥	⑦
Charging users for services now provided at little or no cost	①	②	③	④	⑤	⑥	⑦
Upgrading aging hardware	①	②	③	④	⑤	⑥	⑦
Upgrading aging software	①	②	③	④	⑤	⑥	⑦
Software site licensing	①	②	③	④	⑤	⑥	⑦
Instructional Applications							
Developing instructional software	①	②	③	④	⑤	⑥	⑦
Using instructional software in classes	①	②	③	④	⑤	⑥	⑦
Using instructional software as a supplement to classes	①	②	③	④	⑤	⑥	⑦

36. Many campuses find themselves facing declining enrollments, reduced financial resources, and increasing costs. How is your campus addressing these issues as you view technology needs and services??

	Doing This Already	*Beginning in '91-'92 Year*	*Reviewing For '91-'92 Year*	*Decided Not To Do This*
Reducing purchases of computer technology	①	②	③	④
Charging new fees to depts. and service units (e.g., networking, printing)	①	②	③	④
Charging new fees to individual users (e.g., access, printing))	①	②	③	④
Exploring less expensive hardware options	①	②	③	④
Exploring less expensive software options	①	②	③	④
Leasing rather than buying hardware	①	②	③	④
More active recycling of older equipment to other departments and units	①	②	③	④
Consortial purchasing programs	①	②	③	④
Vendor financing	①	②	③	④
Reducing hours in public access facilities	①	②	③	④
Reducing services (e.g., less consulting)	①	②	③	④
Reorganizing operations (e.g., combining units to coordinate staffing)	①	②	③	④
Reducing staff	①	②	③	④

please go on to the next page ➨

H. Strategic Planning Issues

37. As you look at the future of computing on your campus, please indicate how important the following computing/technology issues will be in the overall campus computing environment over the next 2-3 years.

	Not Important						*Very Important*
Assessing the benefits of existing investments in computing and technology resources	①	②	③	④	⑤	⑥	⑦
Clarifying goals and campus plans for technology resources	①	②	③	④	⑤	⑥	⑦
Providing incentives and rewards for faculty to support technology integration into the curriculum	①	②	③	④	⑤	⑥	⑦
Allocating campus funds to support expanded services	①	②	③	④	⑤	⑥	⑦
Faculty concerns about the benefits of computing in the curriculum	①	②	③	④	⑤	⑥	⑦
Administrative concerns about the benefits of computing in the curriculum	①	②	③	④	⑤	⑥	⑦
Developing/strengthening vendor relationships	①	②	③	④	⑤	⑥	⑦
Charging fees to students for desktop computer access	①	②	③	④	⑤	⑥	⑦
Establishing/maintaining campus-wide standards for *hardware*	①	②	③	④	⑤	⑥	⑦
Establishing/maintaining campus-wide standards for *software*	①	②	③	④	⑤	⑥	⑦
Integrating computing services with allied service departments (for example, library services)	①	②	③	④	⑤	⑥	⑦
Expanding computer networking across the campus	①	②	③	④	⑤	⑥	⑦
Operating a computer resale program for students and faculty	①	②	③	④	⑤	⑥	⑦
Developing budget mechanisms to replace aging equipment on a routine basis	①	②	③	④	⑤	⑥	⑦

38. Compared to last year (1990-91), how do you expect this year's budget to change with regard to academic computing overall, and to academic computing and institutional purchases of desktop computers?

	Reduced ≥ 5%	*Reduced 3-5%*	*Reduced 1-3%*	*No Change*	*Increased 1-3%*	*Increased 3-5%*	*Increased >5%*
Total academic computing budget	①	②	③	④	⑤	⑥	⑦
Purchases of desktop computers by academic computing units	①	②	③	④	⑤	⑥	⑦
All institutional purchases of desktop computers	①	②	③	④	⑤	⑥	⑦

I. Libraries and Computing

39. Does your campus have desktop computers in the library?

① no (skip to next question #40) ② yes (go on to question below)

If yes, how do library users make use of these computers (please check all that apply):

- ❑ catalog access
- ❑ database access
- ❑ open access use
- ❑ word processing
- ❑ CD ROM access
- ❑ other: _____

40. Has your library catalog been automated?

① no (go on to next question # 41) ② yes (go on to question #42)

41. If NO: Does your campus have plans to automate the library card catalog in the next two years?

① no (go on to question #43) ② yes

42. If YES:

What system or vendor have you used to automate your card catalog? _____

Is the Card Catalog CPU located ① in the library? ② in the campus computer center? ③ elsewhere?

43. How does your library/library system provide access to bibliographic citation indexes?

- ❑ print
- ❑ database on a campus CPU
- ❑ CD ROM
- ❑ other: _____
- ❑ dial-up access to off-campus *commercial* databases
- ❑ dial-up access to off-campus *educational* databases

please go on to the next page ➨

J. NETWORKING

44. How important are the following issues in discussions about and planning for networking on your campus?

	Not Important						*Very Important*
Connecting desktop systems to share departmental or workgroup files	①	②	③	④	⑤	⑥	⑦
Connecting desktop systems to share software resources	①	②	③	④	⑤	⑥	⑦
Supporting instructional labs and clusters	①	②	③	④	⑤	⑥	⑦
*Intra*departmental mail systems on LANS	①	②	③	④	⑤	⑥	⑦
Campus-wide mail systems on a network	①	②	③	④	⑤	⑥	⑦
Linking PCs to larger computing systems	①	②	③	④	⑤	⑥	⑦
Linking your campus with regional or national networks	①	②	③	④	⑤	⑥	⑦

45. What kinds of networks are currently installed on your campus?(Check all that apply)

- ❑ Fiber
- ❑ Ethernet/Coax
- ❑ ISDN
- ❑ Twisted Pair

46. Who has access to electronic mail accounts at your campus? (Please check all that apply and indicate your estimate of the percentage of these groups using e-mail.)

❑ students	percentage of students who use e-mail?	____ %
❑ faculty	percentage of faculty who use e-mail?	____ %
❑ administrators	percentage of administrators who use e-mail?	____ %
❑ staff	percentage of staff who use e-mail?	____ %

47. Does your campus charge fees for use of E-mail?
① no (skip to #49) ② yes

48. Which users are assessed a fee for using E-mail?
- ❑ students
- ❑ faculty
- ❑ administrators
- ❑ staff

49. Does your campus have access to the Internet or Bitnet?
Internet ① no ② yes *Bitnet* ① no ② yes

50. Who is allowed to use the connections to Internet or Bitnet?
- ❑ students
- ❑ faculty
- ❑ administrators
- ❑ staff

K. COMPUTING FOR DISABLED STUDENTS

51. How would you describe the organizational arrangements for providing computer access for disabled end-users?
① *centralized* access, through main and/or departmental computer centers.
② *segmented* access, through a special office specifically charged to assist disabled end-users.
③ *mixed* access, through both a special office and also through main and/or departmental computer centers.
④ *general access*, with no formal policy or procedure(s) for specifically serving disabled students.

52. Is your campus currently reviewing the computing needs of disabled students?
① no, and we have no plans to do so in the next year or so.
② no, because we recently completed this type of review.
③ yes, a review is now underway.
④ yes, a review is planned for the coming academic year (1991-1992).

please go on to the next page ➡

L. VENDOR ASSESSMENT

53. What is your assessment of the companies that sell desktop (i.e., personal computer and workstation) systems and software to the higher education market?

Ratings: ① Strongly Disagree (SD) ② Disagree ③ Agree ④ Strongly Agree (SA)

	Has Appropriate Products for Campus Users SD D A SA	*Understands Computing Issues Affecting My Campus* SD D A SA	*Will Play an Important Role in our Computing Plans for the Next 2-3 Years* SD D A SA
Hardware Vendors			
Apple	① ② ③ ④	① ② ③ ④	① ② ③ ④
AT&T	① ② ③ ④	① ② ③ ④	① ② ③ ④
Commodore/Amiga	① ② ③ ④	① ② ③ ④	① ② ③ ④
DEC (Digital)	① ② ③ ④	① ② ③ ④	① ② ③ ④
Dell	① ② ③ ④	① ② ③ ④	① ② ③ ④
HP/Apollo	① ② ③ ④	① ② ③ ④	① ② ③ ④
IBM	① ② ③ ④	① ② ③ ④	① ② ③ ④
NeXT	① ② ③ ④	① ② ③ ④	① ② ③ ④
SUN	① ② ③ ④	① ② ③ ④	① ② ③ ④
Zenith	① ② ③ ④	① ② ③ ④	① ② ③ ④
Other: _____	① ② ③ ④	① ② ③ ④	① ② ③ ④
Other: _____	① ② ③ ④	① ② ③ ④	① ② ③ ④
Software Vendors			
Aldus	① ② ③ ④	① ② ③ ④	① ② ③ ④
Ashton-Tate	① ② ③ ④	① ② ③ ④	① ② ③ ④
Auto-Desk	① ② ③ ④	① ② ③ ④	① ② ③ ④
Borland	① ② ③ ④	① ② ③ ④	① ② ③ ④
Claris	① ② ③ ④	① ② ③ ④	① ② ③ ④
Computer Associates	① ② ③ ④	① ② ③ ④	① ② ③ ④
Lotus	① ② ③ ④	① ② ③ ④	① ② ③ ④
Microsoft	① ② ③ ④	① ② ③ ④	① ② ③ ④
SAS	① ② ③ ④	① ② ③ ④	① ② ③ ④
Software Publishing Co.	① ② ③ ④	① ② ③ ④	① ② ③ ④
SPSS	① ② ③ ④	① ② ③ ④	① ② ③ ④
Other: _____	① ② ③ ④	① ② ③ ④	① ② ③ ④
Other: _____	① ② ③ ④	① ② ③ ④	① ② ③ ④

M. ORGANIZATION OF CAMPUS COMPUTING AND TECHNOLOGY UNITS

54. Is your campus part of a multicampus system with shared computing resources: ① no ② yes

55. Academic and administrative computing on your campus are: ① separate units ② one single unit

56. How does your campus coordinate academic computing and library operations? The heads of each unit report to:

Academic Computing
- ① president
- ② provost (chief academic officer)
- ③ vice president, (e.g., vp for information services)
- ④ dean
- ⑤ other: _____

Library
- ① president
- ② provost (chief academic officer)
- ③ vice president, (e.g., vp for information technology)
- ④ dean
- ⑤ other: _____

57. Has your institution reorganized computing or library services with the past two years?
Academic Computing ① no ② yes *Library* ① no ② yes

58. Do you anticipate a reorganization of computing or library services within the next two years?
Academic Computing ① no ② yes *Library* ① no ② yes

59. Is your chief academic officer directly involved (or interested) in campus planning for instructional technology?
① not interested or involved ② interested ③ somewhat involved ④ directly involved

please go on to the next page ➨

60. How does your institution deal with the "life cycle" issues affecting the institutional purchase (and upgrading/replacement) of desktop computers for faculty, classrooms, clusters, and labs?
    - ① Most institutional purchases of desktop systems are acquired through a special one-time allocation or appropriation.
    - ② Although we generally purchase equipment on a one-time allocation, we are developing a budget mechanism (or budget planning model) to help us routinely "acquire and retire" new technology.
    - ③ We have a budget mechanism (or budget planning model) to help us routinely "acquire and retire" new technology.

61. From your perspective, how well does your institution prepare your students (i.e., undergraduates) for the technology skills they will need and technology challenges they will encounter over the next decade?

Academic Field/Program	*Poor*				*Excellent*
biological & physical sciences	①	②	③	④	⑤
business	①	②	③	④	⑤
education	①	②	③	④	⑤
engineering	①	②	③	④	⑤
fine & performing arts	①	②	③	④	⑤
humanities	①	②	③	④	⑤
social science	①	②	③	④	⑤

62. From your perspective, how well prepared are the faculty at your institution to use technology as a resource for instruction and scholarship?

For Instruction	*Poor*				*Excellent*
biological & physical sciences	①	②	③	④	⑤
business	①	②	③	④	⑤
education	①	②	③	④	⑤
engineering	①	②	③	④	⑤
fine & performing arts	①	②	③	④	⑤
humanities	①	②	③	④	⑤
social science	①	②	③	④	⑤

For Scholarship	*Poor*				*Excellent*
biological & physical sciences	①	②	③	④	⑤
business	①	②	③	④	⑤
education	①	②	③	④	⑤
engineering	①	②	③	④	⑤
fine & performing arts	①	②	③	④	⑤
humanities	①	②	③	④	⑤
social science	①	②	③	④	⑤

THANK YOU FOR YOUR ASSISTANCE!

PLEASE FOLD AND MAIL IN THE ENCLOSED POSTAGE-PAID ENVELOPE

Appendix C

Participating Institutions

Abilene Christian University, TX
Adelphi University, NY
Adrian College, MI
Agnes Scott College, GA
Alamance Community College, NC
Alaska Pacific University, AK
Albertus Magnus College, CT
Albion College, MI
Albuquerque Technical Vocational Institute, NM
Alfred University, NY
Allegany Community College, MD
Alma College, MI
Alvernia College, PA
Alverno College, WI
Amber University, TX
American Conservatory of Music, IL
American River College, CA
American University, DC
Ancilla College, IN
Angelina College, TX
Angelo State University, TX
Anne Arundel Community College, MD
Anoka-Ramsey Community College, MN
Anson Community College, NC
Antelope Valley College, CA
Antonelli Institute of Art and Photography, OH
Appalachian State University, NC
Arapahoe Community College, CO
Arkansas State University, AR
Arkansas State University-Beebe Branch, AR
Armstrong State College, GA
Asheville-Buncombe Technical Community College, NC
Ashland University, OH
Atlantic Christian College, NC
Atlantic Community College, NJ
Auburn University-Main Campus, AL
Augsburg College, MN
Augustana College, SD
Aurora University, IL
Austin Community College, MN
Austin Community College, TX
Austin Peay State University, TN
Avila College, MO
Babson College, MA
Bacone College, OK
Bainbridge College, GA
Bakersfield College, CA
Baldwin-Wallace College, OH
Barat College, IL
Barry University, FL
Bartlesville Wesleyan College, OK
Baruch College of the City University of New York, NY
Bates College, ME
Bay de Noc Community College, MI
Beaver College, PA
Bee County College, TX
Bellevue College, NE
Belmont Abbey College, NC
Belmont Technical College, OH
Bemidji State University, MN
Benedictine College, KS
Bennington College, VT
Berea College, KY
Bergen Community College, NJ
Berkshire Community College, MA
Berry College, GA
Bethany College, CA
Bethany Lutheran College, MN
Bethel College, MN
Big Bend Community College, WA
Biola University, CA
Birmingham Southern College, AL
Bishop Clarkson College, NE
Black Hills State University, SD
Blackhawk Technical College, WI
Bladen Community College, NC
Bluefield College, VA
Bluffton College, OH
Boise State University, ID
Boston College, MA
Bowdoin College, ME
Bowling Green State University, OH
Bradford College, MA
Bradley University, IL
Brazosport College, TX
Brescia College, KY
Brevard College, NC
Brevard Community College, FL
Brigham Young University-Hawaii Campus, HI
Brooks College, CA

Broome Community College, NY
Broward Community College, FL
Brown University, RI
Brunswick College, GA
Brunswick Community College, NC
Bucknell University, PA
Buena Vista College, IA
Butler County Community College, KS
Cabrillo College, CA
Cabrini College, PA
Caldwell College, NJ
Calif Polytechnic State Univ-San Luis Obispo, CA
Calif State Univ-Chico, CA
Calif State Univ-Fullerton, CA
Calif State Univ-Hayward, CA
Calif State Univ-Los Angeles, CA
Calif State Univ-Stanislaus, CA
California Institute of the Arts, CA
California Lutheran University, CA
California Maritime Academy, CA
California Univ. of Pennsylvania, PA
Cameron University, OK
Campbellsville College, KY
Canisius College, NY
Capital University, OH
Carlow College, PA
Carnegie Mellon University, PA
Carroll College, WI
Carroll College of Montana, MT
Carson-Newman College, TN
Carteret Community College, NC
Case Western Reserve University, OH
Catawba College, NC
Catawba Valley Community College, NC
Catholic University of America, DC
Cayuga County Community College, NY
Cazenovia College, NY
Cedar Crest College, PA
Cedarville College, OH
Centenary College, NJ
Centenary College of Louisiana, LA
Central Alabama Community College- Childersburg Campus, AL
Central Carolina Community College, NC
Central College, KS
Central Community College- Grand Island Campus, NE
Central Connecticut State University, CT
Central Florida Community College, FL
Central Oregon Community College, OR
Central Virginia Community College, VA
Central Washington University, WA
Central Wyoming College, WY
Centralia College, WA
Chadron State College, NE
Chaffey College, CA
Chaminade University of Honolulu, HI
Champlain College, VT
Charles County Community College, MD
Charles Stewart Mott Community College, MI
Chatham College, PA
Chattahoochee Valley State Community College, AL
Chesterfield-Marlboro Technical College, SC
Chestnut Hill College, PA
Christian Brothers College, TN
Christopher Newport College, VA
City Colleges of Chicago, Chicago City-Wide College, IL
City Colleges of Chicago, Wilbur Wright College, IL
Clackamas Community College, OR
Clark College, WA
Clatsop Community College, OR
Clemson University, SC
Cleveland Institute of Electronics, OH
Cleveland State University, OH
Clinton Community College, IA
Clovis Community College, NM
Cochise College, AZ
Coe College, IA
Coffeyville Community College, KS
Cogswell Polytechnical College, CA
Coker College, SC
Colby College, ME
Colby Community College, KS
College of Charleston, SC
College of Mount St. Joseph, OH
College of New Rochelle, NY
College of Notre Dame of Maryland, MD
College of Southern Idaho, ID
College of St. Francis, IL
College of St. Scholastica, MN
College of St. Thomas, MN
College of Staten Island of the City University of New York, NY
College of the Canyons, CA
College of the Mainland, TX
College of the Sequoias, CA
College of William and Mary, VA
College of Wooster, OH
Colorado Mountain College, Timberline Campus, CO
Colorado Technical College, CO
Columbia Basin College, WA
Columbia College, CA
Columbia College, IL
Columbia College, MO
Columbia State Community College, TN
Columbia University, NY
Columbus College, GA
Community College of Beaver County, PA
Community College of Rhode Island, RI
Community College of the Air Force, AL
Compton Community College, CA
Concordia College, MI
Concordia College, MN
Concordia College, MN
Concordia College, NY

Copiah-Lincoln Community College, MS
Corcoran School of Art, DC
Cornell College, IA
Corning Community College, NY
Corpus Christi State University, TX
Cosumnes River College, CA
Cottey College, MO
Covenant College, GA
Crafton Hills College, CA
Creighton University, NE
Criswell College, TX
Cuesta College, CA
Culver-Stockton College, MO
CUNY - Hostos Community College , NY
CUNY - LaGuardia Community College , NY
CUNY - Manhattan Community College , NY
CUNY, City College , NY
Curry College, MA
Cypress College, CA
D'Youville College, NY
Dakota State University, SD
Danville Community College, VA
Davidson College, NC
Dawson Community College, MT
Daytona Beach Community College, FL
De Anza College, CA
Dean Junior College, MA
Defiance College, OH
Delaware Technical and Community College, Southern Campus, DE
Delaware Valley College, PA
Delta State University, MS
DePaul University, IL
DePauw University, IN
DeVry Institute of Technology, IL
Dodge City Community College, KS
Dordt College, IA
Drake University, IA
Drew University, NJ
Duquesne University, PA
Durham Technical Community College, NC
Dutchess Community College, NY
East Central College, MO
East Central Junior College, MS
East Georgia College, GA
East Georgia College, GA
East Stroudsburg University of Pennsylvania, PA
East Texas State University, TX
Eastern Arizona College, AZ
Eastern Illinois University, IL
Eastern Mennonite College, VA
Eastern Michigan University, MI
Eastern Montana College, MT
Eastern Nazarene College, MA
Eastern Oregon State College, OR
Eastern Shore Community College, VA
Eastern Washington University, WA
Eastern Wyoming College, WY
Eastfield College, TX
Eckerd College, FL
Edgewood College, WI
Edison Community College, FL
Edison State Community College, OH
Edmonds Community College, WA
Edmondson Junior College, TN
Ellsworth Community College, IA
Elmhurst College, IL
Elmira College, NY
Elon College, NC
Embry-Riddle Aeronautical University, AZ
Emmanuel College, GA
Emory & Henry College, VA
Emory University, GA
Emporia State University, KS
Erie Community College, City Campus, NY
Erskine College, SC
Everett Community College, WA
Evergreen State College, WA
Faulkner University, AL
Fayetteville State University, NC
Ferris State University, MI
Ferrum College, VA
Fitchburg State College, MA
Flagler College, FL
Flaming Rainbow University, OK
Flathead Valley Community College, MT
Florida Atlantic University, FL
Florida Community College at Jacksonville, FL
Florida Institute of Technology, FL
Florida International University, FL
Florida State University, FL
Floyd College, GA
Fontbonne College, MO
Forsyth Technical Community College, NC
Forsyth Technical Community College, NC
Fort Berthold Community College, ND
Fort Hays State University, KS
Fort Lewis College, CO
Fort Scott Community College, KS
Frank Phillips College, TX
Franklin and Marshall College, PA
Franklin College of Indiana, IN
Frederick Community College, MD
Free Will Baptist Bible College, TN
Freed-Hardeman College, TN
Front Range Community College, CO
Fullerton College, CA
Furman University, SC
Gallaudet University, DC
Galveston College, TX
Garden City Community College, KS
Garrett Community College, MD
Gateway Technical College, WI
Gavilan College, CA

Genesee Community College, NY
George Fox College, OR
George Washington University, DC
Georgetown College, KY
Georgia Institute of Technology, GA
Georgia Military College, GA
Georgia Southwestern College, GA
Georgian Court College, NJ
Glassboro State College, NJ
Glendale Community College, AZ
Gogebic Community College, MI
Goldey-Beacom College, DE
Governors State University, IL
Grace College, IN
Graceland College, IA
Grambling State University, LA
Grand Canyon University, AZ
Grand Valley State University, MI
Grand View College, IA
Grays Harbor College, WA
Grayson County College, TX
Grossmont College, CA
Grove City College, PA
Gwynedd-Mercy College, PA
Hagerstown Junior College, MD
Hamilton College, NY
Hamline University, MN
Hampden-Sydney College, VA
Hampshire College, MA
Hampton University, VA
Harcum Junior College, PA
Harford Community College, MD
Harris-Stowe State College, MO
Harrisburg Area Community College, PA
Hartnell College, CA
Hartwick College, NY
Harvard University, MA
Hastings College, NE
Haverford College, PA
Haywood Community College, NC
Hendrix College, AR
Henry Ford Community College, MI
Hesston College, KS
Highland Community College, IL
Hill College of the Hill Junior College District, TX
Hiram College, OH
Hobson State Technical College, AL
Hofstra University, NY
Holy Family College, PA
Holyoke Community College, MA
Hope College, MI
Housatonic Community College, CT
Houston Community College System, TX
Howard Community College, MD
Howard Payne University, TX
Huntingdon College, AL
Huntington College, IN
Illinois Benedictine College, IL
Illinois Central College, IL
Illinois Valley Community College, IL
Indian Hills Community College, IA
Indian River Community College, FL
Indiana Institute of Technology, IN
Indiana State University, IN
Indiana U-Purdue U at Indianapolis, IN
Indiana University at Kokomo, IN
Indiana University East, IN
Indiana University Northwest, IN
Indiana University of Pennsylvania, PA
Indiana University Southeast, IN
Indiana University-Purdue University at Fort Wayne, IN
Indiana Vocational Technical College- Central Indiana, IN
Indiana Vocational Technical College- Lafayette, IN
Indiana Vocational Technical College- Southeast, IN
Indiana Vocational Technical College-North, IN
Indiana Vocational Technical College-Wabash Valley, IN
Iona College, NY
Iowa Central Community College, IA
Iowa Lakes Community College, IA
Iowa State Univ of Science & Tech, IA
Irvine Valley College, CA
Isothermal Community College, NC
Itasca Community College, MN
Itawamba Community College, MS
Ithaca College, NY
ITT Technical Institute, MO
Jacksonville State University, AL
James H. Faulkner State Junior College, AL
James Madison University, VA
Jamestown College, ND
Jamestown Community College, NY
Jarvis Christian College, TX
Jefferson College, MO
Jersey City State College, NJ
John Brown University, AR
John C. Calhoun State Community College, AL
John Wood Community College, IL
John Wood Community College, IL
Johnson C. Smith University, NC
Johnson County Community College, KS
Johnson State College, VT
Joliet Junior College, IL
Jones County Junior College, MS
Jordan College, MI
Judson College, AL
Judson College, IL
Kalamazoo College, MI
Kankakee Community College, IL
Kansas City Kansas Community College, KS
Kansas State University, KS
Kaskaskia College, IL
Kean College of New Jersey, NJ
Kearney State College, NE
Kellogg Community College, MI

Kendall College of Art and Design, MI
Kenyon College, OH
Keystone Junior College, PA
King's College, NY
Kings River Community College, CA
Kirkwood Community College, IA
Kirtland Community College, MI
Knox College, IL
La Salle University, PA
Lafayette College, PA
LaGrange College, GA
Lake Forest College, IL
Lake Michigan College, MI
Lake-Sumter Community College, FL
Lakeland College, WI
Lakeland Community College, OH
Lamson Junior College, AZ
Lander College, SC
Lane Community College, OR
Laramie County Community College, WY
Latter-Day Saints Business College, UT
Lawrence Institute of Technology, MI
Lawrence University, WI
Le Moyne College, NY
Lee College, TN
Lehman College, CUNY, NY
LeTourneau University, TX
Lewis University, IL
Limestone College, SC
Lincoln University, MO
Lincoln University, PA
Livingstone College, NC
Lock Haven Univ. of Pennsylvania, PA
Long Beach City College, CA
Longview Community College, MO
Longwood College, VA
Lorain County Community College, OH
Loras College, IA
Los Angeles Harbor College, CA
Los Angeles Pierce College, CA
Los Angeles Southwest College, CA
Louisiana College, LA
Louisiana State University at Alexandria, LA
Louisiana State University at Eunice, LA
Lourdes College, OH
Lower Columbia College, WA
Loyola College, MD
Loyola University of Chicago, IL
Luther College, IA
Macalester College, MN
Macomb Community College, MI
Madonna College, MI
Manchester College, IN
Manchester Community College, CT
Mankato State University, MN
Manor Junior College, PA
Mansfield University of Pennsylvania, PA
Maranatha Baptist Bible College, WI
Marian College of Fond du Lac, WI
Marian Court Junior College, MA
Marietta College, OH
Marshall University, WV
Marshalltown Community College, IA
Martin Center College, IN
Martin Community College, NC
Martin Methodist College, TN
Mary Baldwin College, VA
Marycrest College, IA
Maryland Institute, College of Art, MD
Marylhurst College, OR
Maryville College, TN
Maryville University, Saint Louis, MO
Marywood College, PA
Master's College, CA
Mattatuck Community College, CT
Mayville State University, ND
McHenry County College, IL
McKendree College, IL
McKenzie College, TN
McLennan Community College, TX
McMurry College, TX
McPherson College, KS
Medaille College, NY
Memphis State University, TN
Mendocino Collegé, CA
Mendocino College, CA
Mercer University, GA
Mercy College, NY
Mercyhurst College, PA
Meredith College, NC
Meridian Community College, MS
Mesabi Community College, MN
Messiah College, PA
Metropolitan State College, CO
Metropolitan State University, MN
Mid-Plains Community College, NE
MidAmerica Nazarene College, KS
Middle Georgia College, GA
Middle Georgia College, GA
Middlebury College, VT
Middlesex County College, NJ
Midlands Technical College, SC
Midway College, KY
Miles Community College, MT
Millersville University of Pennsylvania, PA
Milligan College, TN
Mills College, CA
Millsaps College, MS
Milwaukee Area Technical College, WI
Milwaukee Institute of Art and Design, WI
Mineral Area College, MO
Minneapolis College of Art and Design, MN
Minneapolis Community College, MN
Minot State University, ND

Mississippi State University, MS
Missouri Southern State College, MO
Mitchell Community College, NC
Moberly Area Junior College, MO
Modesto Junior College, CA
Mohegan Community College, CT
Molloy College, NY
Monmouth College, NJ
Monroe Community College, NY
Montana College of Mineral Science and Technology, MT
Montcalm Community College, MI
Montclair State College, NJ
Montgomery Community College, NC
Montgomery County Community College, PA
Moody Bible Institute, IL
Moraine Park Technical College, WI
Moraine Valley Community College, IL
Moravian College, PA
Morehead State University, KY
Morgan Community College, CO
Morningside College, IA
Motlow State Community College, TN
Mount Aloysius Junior College, PA
Mount Ida College, MA
Mount Mary College, WI
Mount Olive College, NC
Mount Saint Clare College, IA
Mount Saint Mary College, NY
Mount Senario College, WI
Mount Union College, OH
Mount Vernon Nazarene College, OH
Mount Wachusett Community College, MA
Mt. San Antonio College, CA
Mt. San Jacinto College, CA
Murray State College, OK
Murray State University, KY
Muskingum College, OH
Nash Community College, NC
Nashville State Technical Institute, TN
Nassau Community College, NY
National Education Center- Bauder College Campus, FL
National-Louis University, IL
Navarro College, TX
Neosho County Community College, KS
Neumann College, PA
New England College, NH
New England Institute of Technology, RI
New Hampshire College, NH
New Jersey Institute of Technology, NJ
New Mexico Junior College, NM
New Mexico Military Institute, NM
New Mexico State Univ-Main Campus, NM
New Mexico State University- Alamogordo, NM
New Mexico State University-Grants, NM
New York Institute of Technology, NY
Newberry College, SC
Niagara County Community College, NY
Niagara University, NY
Nichols College, MA
North Carolina A & T State Univ., NC
North Central Michigan College, MI
North Country Community College, NY
North Harris County College District, TX
North Hennepin Community College, MN
North Iowa Area Community College, IA
Northampton County Area Community College, PA
Northeast Louisiana University, LA
Northeast Wisconsin Technical College, WI
Northeastern Junior College, CO
Northeastern State University, OK
Northeastern University, MA
Northern Arizona University, AZ
Northern Illinois University, IL
Northern Kentucky University, KY
Northern Nevada Community College, NV
Northern Nevada Community College, NV
Northern Virginia Community College, VA
Northland Pioneer College, AZ
Northwest College of the Assemblies of God, WA
Northwest Community College, WY
Northwest Missouri State University, MO
Northwestern College, IA
Northwestern College, MN
Northwestern College, WI
Northwestern Electronics Institute, MN
Northwestern University, IL
Norwalk Community College, CT
Norwich University, VT
Nyack College, NY
Oakland University, MI
Oakton Community College, IL
Oberlin College, OH
Odessa College, TX
Ohio Northern University, OH
Ohio State University-Marion Campus, OH
Ohio State University-Newark Campus, OH
Ohio University-Belmont, OH
Ohio University-Chillicothe, OH
Ohlone College, CA
Oklahoma Baptist University, OK
Oklahoma Christian College, OK
Oklahoma City Community College, OK
Oklahoma State University, OK
Old Dominion University, VA
Olivet Nazarene University, IL
Orange County Community College, NY
Orangeburg-Calhoun Technical College, SC
Oregon Institute of Technology, OR
Oregon State University, OR
Ottawa University, KS
Otterbein College, OH
Our Lady of Holy Cross College, LA
Our Lady of the Lake University of San Antonio, TX
Pacific Christian College, CA

Pacific Lutheran University, WA
Palo Alto College, TX
Palo Verde College, CA
Palomar College, CA
Pan American University, TX
Panola Junior College, TX
Paris Junior College, TX
Parks Junior College, CO
Pasadena City College, CA
Pasco-Hernando Community College, FL
Pennsylvania College of Technology, PA
Pennsylvania State Univ. at Erie, , PA
Pennsylvania State Univ., Univ. Park Campus, PA
Pennsylvania State University Altoona Campus, PA
Pennsylvania State University Hazelton Campus, PA
Pennsylvania State University New Kensington Campus, PA
Pennsylvania State University Ogontz Campus, PA
Pennsylvania State University Worthington Scranton Campus, PA
Pennsylvania State University Worthington Scranton Campus, PA
Peru State College, NE
Philander Smith College, AR
Phoenix College, AZ
Piedmont College, GA
Piedmont Community College, NC
Pierce College, WA
Pikes Peak Community College, CO
Pikeville College, KY
Pine Manor College, MA
Pinebrook Junior College, PA
Pitt Community College, NC
Pittsburg State University, KS
Pitzer College, CA
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Polytechnic University, Brooklyn Campus, NY
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Prescott College, AZ
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Princeton University, NJ
Providence College, RI
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Purdue University North Central, IN
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Quinnipiac College, CT
Radford University, VA
Rancho Santiago College, CA
Randolph-Macon College, VA
Randolph-Macon Woman's College, VA
Ranger Junior College, TX
Reading Area Community College, PA
Red Rocks Community College, CO
Regis College, CO
Rhode Island College, RI
Rhode Island School of Design, RI
Rhodes College, TN
Richard Bland College, VA
Roane State Community College, TN
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Russell Sage College, NY
Rutgers University-Camden Campus, NJ
Saint Augustine College, IL
Saint Charles County Community College, MO
Saint Charles County Community College, MO
Saint John's College-Main Campus, MD
Saint John's University, MN
Saint Joseph College, CT
Saint Leo College, FL
Saint Louis University, MO
Saint Martin's College, WA
Saint Mary of the Plains College, KS
Saint Mary's College, IN
Saint Mary's College, MI
Saint Mary's College, NC
Saint Meinrad College, IN
Saint Michael's College, VT
Saint Peter's College, NJ
Saint Xavier College, IL
Salt Lake Community College, UT
Sam Houston State University, TX
San Francisco State University, CA
San Jacinto College- South Campus, TX
San Jacinto College-Central Campus, TX
San Joaquin Delta College, CA
San Jose State University, CA
San Juan College, NM
Santa Barbara City College, CA
Santa Clara University, CA
Santa Fe Community College, NM
Santa Monica College, CA
Santa Rosa Junior College, CA
Savannah State College, GA
Schreiner College, TX
Scripps College, CA
SE College of the Assemblies of God, FL
Seattle Pacific University, WA
Seattle University, WA
Seminole Junior College, OK
Seton Hall University, NJ
Shaw University, NC

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Shawnee State University, OH
Sheldon Jackson College, AK
Sheridan College, WY
Shimer College, IL
Siena College, NY
Siena Heights College, MI
Silver Lake College, WI
Simon's Rock of Bard College, MA
Sioux Falls College, SD
Sisseton-Wahpeton Community College, SD
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Skidmore College, NY
Skyline College, CA
Slippery Rock University of Pennsylvania, PA
Snead State Junior College, AL
Snow College, UT
Sonoma State University, CA
South College, GA
South Dakota School of Mines & Technology, SD
South Dakota State University, SD
South Georgia College, GA
South Plains College, TX
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Southeast Community College, Milford Campus, NE
Southeast Missouri State University, MO
Southeastern Baptist Theological Seminary, NC
Southeastern Community College, NC
Southeastern Community College, South Campus, IA
Southeastern Massachusetts Univ, MA
Southern Arkansas University, AR
Southern Arkansas University Tech, AR
Southern California College, CA
Southern College, FL
Southern College of Technology, GA
Southern Connecticut State University, CT
Southern Illinois Univ-Carbondale, IL
Southern Methodist University, TX
Southern Nazarene University, OK
Southern Oregon State College, OR
Southern Union State Junior College, AL
Southern University Information Division, LA
Southern University, Shreveport- Bossier City Campus, LA
Southern Utah State College, UT
Southwest Baptist University, MO
Southwest Wisconsin Technical College, WI
Southwestern Adventist College, TX
Southwestern Assemblies of God College, TX
Southwestern College, CA
Southwestern Oklahoma State University, OK
Southwestern Oregon Community College, OR
Southwestern University, TX
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Springfield College, MA
Springfield College in Illinois, IL
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St. Edward's University, TX
St. Francis College, NY
St. Johns River Community College, FL
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St. Joseph's College, Suffolk Campus, NY
St. Lawrence University, NY
St. Louis Community College at Forest Park, MO
St. Mary's College of Maryland, MD
St. Mary's University of San Antonio, TX
St. Norbert College, WI
St. Olaf College, MN
St. Paul Technical College, MN
St. Petersburg Junior College, FL
St. Thomas Aquinas College, NY
St. Thomas University, FL
Stanford University, CA
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Stevens Institute of Technology, NJ
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Suffolk County Community College- Ammerman Campus, NY
Sul Ross State University, TX
Sullivan County Community College, NY
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SUNY College at Old Westbury, NY
SUNY College at Plattsburgh, NY
SUNY College at Potsdam, NY
SUNY College at Purchase, NY
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SUNY College of Technology - Farmingdale, NY
SUNY- College at Cobleskill, NY
SUNY-Binghamton, NY
SUNY-College of Technology at Alfred, NY
SUNY-College of Technology at Farmingdale, NY
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Texas Lutheran College, TX
Texas Southern University, TX
Texas Southmost College, TX
Texas Wesleyan University, TX
The College of Saint Rose, NY

The College of West Virginia, WV
Thomas A. Edison State College, NJ
Thomas College, GA
Thomas More College, KY
Tomlinson College, TN
Tompkins Cortland Community College, NY
Transylvania University, KY
Tri-County Community College, NC
Tri-State University, IN
Trinity Christian College, IL
Trinity College, IL
Trinity College, VT
Troy State University at Dothan, AL
Truett-McConnell College, GA
Tufts University, MA
Tulsa Junior College, OK
Ulster County Community College, NY
Umpqua Community College, OR
Union College, NY
Union Theological Seminary In Virginia, VA
Union University, TN
United States Coast Guard Academy, CT
United States Merchant Marine Academy, NY
United States Naval Academy, MD
Univ. of Hawaii-Kapiolani Community College, HI
University of Akron, OH
University of Alaska CCREE, AK
University of Alaska Southeast, Sitka Campus, AK
University of Alaska-Fairbanks, AK
University of Arizona, AZ
University of Arkansas-Little Rock, AR
University of Baltimore, MD
University of California, Davis, CA
University of California, Los Angeles, CA
University of California, Santa Cruz, CA
University of Central Texas, TX
University of Charleston, WV
University of Dallas, TX
University of Dayton, OH
University of Dubuque, IA
University of Findlay, OH
University of Georgia, GA
University of Hartford, CT
University of Hawaii-West Oahu, HI
University of Hawaii-Windward Community College, HI
University of Houston-Victoria, TX
University of Idaho, ID
University of Iowa, IA
University of Kentucky, Elizabethtown Community College, KY
University of Kentucky, Hazard Community College, KY
University of Kentucky, Jefferson Community College, KY
University of Kentucky, Madisonville Community College, KY
University of Kentucky, Maysville Community College, KY
University of Kentucky, Paducah Community College, KY
University of Maine at Fort Kent, ME
University of Maine at Presque Isle, ME
University of Mary Hardin-Baylor, TX
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University of Michigan-Dearborn, MI
University of Michigan-Flint, MI
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University of Minnesota, Duluth, MN
University of Minnesota, Morris, MN
University of Minnesota, Waseca, MN
University of Minnesota-Twin Cities, MN
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University of Nebraska-Lincoln, NE
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University of South Carolina at Spartanburg, SC
University of South Carolina at Union, SC
University of South Carolina, Columbia, SC
University of South Carolina- Coastal Carolina College, SC
University of South Carolina-Lancaster, SC
University of South Florida, FL
University of Southern California, CA
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University of Southwestern Louisiana, LA
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University of Tennessee-Chatanooga, TN
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University of Wisconsin Center- Manitowoc County, WI
University of Wisconsin Center- Marinette County, WI
University of Wisconsin Center- Fond du Lac, WI

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University of Wisconsin Center- Marathon County, WI
University of Wisconsin Center- Marshfield/Wood County, WI
University of Wisconsin Center- Rock County, WI
University of Wisconsin Center- Sheboygan County, WI
University of Wisconsin Center- Washington County, WI
University of Wisconsin Center- Waukesha County, WI
University of Wisconsin-Eau Claire, WI
University of Wisconsin-Green Bay, WI
University of Wisconsin-Madison, WI
University of Wisconsin-Milwaukee, WI
University of Wisconsin-Stevens Point, WI
University of Wisconsin-Whitewater, WI
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Utah Valley Community College, UT
Utica College of Syracuse University, NY
Valparaiso University, IN
Vanderbilt University, TN
Ventura College, CA
Vermilion Community College, MN
Vermont State Colleges System Office, VT
Villa Julie College, MD
Villa Maria College of Buffalo, NY
Vincennes University, IN
Vincennes University-Jasper Center, IN
Virginia Community College-System, VA
Virginia Military Institute, VA
Virginia Polytechnic Inst & State Univ, VA
Viterbo College, WI
Volunteer State Community College, TN
Wabash College, IN
Wagner College, NY
Wake Technical Community College, NC
Waldorf College, IA
Walker College, AL
Walla Walla College, WA
Walsh College, OH
Walsh College of Accountancy and Business Administration, MI
Walters State Community College, TN
Warner Southern College, FL
Wartburg College, IA
Washington and Jefferson College, PA
Washington University, MO
Waycross College, GA
Wayne Community College, NC
Weatherford College, TX
Webber College, FL
Weber State College, UT
Webster University, MO
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Wesleyan College, GA
Wesleyan University, CT
West Hills College, CA
West Liberty State College, WV
West Los Angeles College, CA
West Texas State University, TX
West Virginia Institute of Technology, WV
West Virginia Northern Community College, WV
West Virginia University, WV
Westark Community College, AR
Westbrook College, ME
Western Carolina University, NC
Western Connecticut State University, CT
Western Illinois University, IL
Western Iowa Tech Community College, IA
Western Maryland College, MD
Western Montana College , MT
Western Nebraska Community College- Scottsbluff Campus, NE
Western Nevada Community College, NV
Western New England College, MA
Western Oregon State College, OR
Western Piedmont Community College, NC
Western State College of Colorado, CO
Western Washington University, WA
Western Wisconsin Technical College, WI
Western Wyoming Community College, WY
Westfield State College, MA
Westmar College, IA
Wharton County Junior College, TX
Whatcom Community College, WA
Whitman College, WA
Whittier College, CA
Wilkes Community College, NC
Wilkes University, PA
William Jewell College, MO
William Penn College, IA
Wingate College, NC
Winston-Salem State University, NC
Winthrop College, SC
Wisconsin Lutheran College, WI
Wittenberg University, OH
Wofford College, SC
Wood Junior College, MS
Woodbury University, CA
Worcester State College, MA
Worthington Community College, MN
Wright State University, Lake Campus, OH
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